Three Ways to Slash M/W Overhead

March 17, 1958

RAILWAY AGE *weekly*

Biggest RDC Fleet

How it works for B&M

60 cents A Simmons-Boardman TIME-SAVER Publication

ONE DOSAGE of DRY Nalco H-174 for ALL-YEAR WEED CONTROL

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The Miner Class A-22-XL Friction Draft Gear and Miner Class RF-333 Rubber-Friction Draft Gear fulfill every requirement for efficient performance in freight train operation. Both draft gears retain their high capacity with low sill pressures during many years of service. The gears were certified under the friction draft gear Specification No. M-901 and are approved for unlimited application to cars in interchange.

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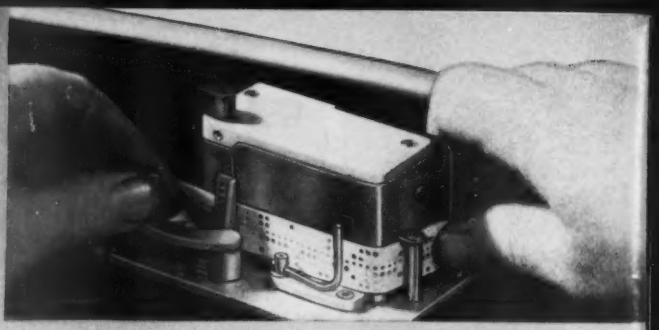
New U-type console arranged to facilitate over-all yard coordination. Panel contains miniature track diagram, indicator and tape feed for programed switching system, CAR-PACITY indicators, and finger-tip controls for supervisory action.



Programed Switching: This Union development permits an operator to classify an entire train with a perforated tape containing track destination of each cut, which sets up the required routes automatically.

2,000 cars a day can be handled by the Hills Park automatic freight yard in northwest Atlanta. It has 24 tracks with space for 16 more. Customers get faster deliveries with less damage to lading.

New VELAC® Automatic Yard Installation cuts classification time . . . reduces impact damage

Radar control of retarders, directed by an electronic computer, holds coupling speeds to less than 4 mph to eliminate impact damage.

A freight car coming into the new Hills Park Yard of the L & N can be uncoupled from its train and coupled to a new train in less than an hour!

This is quite an accomplishment when there are hundreds of cars moving through the yard. In an ordinary freight yard, it would take much longer.

The time saved at Hills Park Yard gets trains rolling sooner to make close connections—or even permits advancing connection times—to provide faster and better service to shippers.

It's all done with Union Switch & Signal's new VELAC Fully Automatic Classification Yard System. After a car rolls over the hump, the VELAC System takes control. All classification and retarder functions are performed automatically.

The Hills Park Yard represents railroad automation at its best. No railroad can stand still. It must anticipate the needs of the present—and the future. That is why this L & N Yard came into being. It will speed the movement of freight not only in the Atlanta area, but to the whole South.

UNION SWITCH & SIGNAL
DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY
SWISSVALE, PENNSYLVANIA

NEW YORK . . . . . PITTSBURGH . . . . . CHICAGO . . . . . SAN FRANCISCO

RAILWAY AGE *weekly*

March 17, 1958 • Vol. 144, No. 11

Week at a Glance

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Research: Ace card in the RR hand ..... p. 9

Railroads can't pinch pennies on research if they are to survive, Faricy tells AREA convention. AAR has kept its research budget intact in spite of a sharp decline in revenues. It will build a new science laboratory at Illinois Institute of Technology within the next two years. Other convention speakers emphasized the need for a unified approach to research.

BLE chief urges rail diversification p.10

Guy Brown has come out strongly in favor of integrated rail-highway-air-water transportation. Disagreeing sharply with some of his fellow unionists, he thinks "department store" transportation would send railroad employment up—not down.

The happy team-up of the B&M and the RDC:

How to harness passenger costs p.14

More than 90% of the Boston & Maine's passenger miles will be produced by the workhorse Budd cars in 1958. They haven't erased the passenger deficit. But B&M men shudder at the thought of the losses without them.

Rapid servicing keeps RDCs rolling p.25

To get the use out of the Budd fleet that the B&M does, rapid turnarounds are vital. Here's how the schedules are maintained—and how a new service building fits into the operation.

Clinchfield takes three steps to cut M/W costs p.30

A ten-year-old campaign on this 276-mile line through southern mountains has whipped the property into tip-top shape. The program: rehabilitation of facilities, reorganization of work forces, and mechanization.

PFE's new cars will work east or west p.34

Rolling off the assembly line are 1,000 dual range mechanical reefers. They're built to serve two ways, as deep-freeze or medium-cold cars. And they're fitted with wide doors to handle standard lading on westward moves.

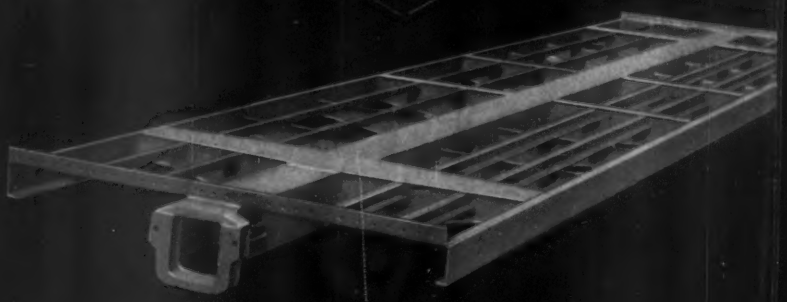
It's time to end transport discrimination p.47

The continuing OUTRAGE—Why does free enterprise mean one thing for the self-supporting railroads and something entirely different for the brothers-in-subsidy: truck, barge and air lines?

Action Page—You have to make them like you p.78

Nothing defeats like defeat. So, if they are to succeed in winning new legislation, the railroads must win popularity and confidence at the grass roots level. Dramatic, positive strides like the Western lines' new freight schedules are just what's needed.

this is the backbone of the very finest freight car in the world



e don't know what "brand" of freight car this is—nor do we care—because WE ARE NOT CAR BUILDERS

. . . but we do know that a man who knows enough about underframes to specify this one could not build anything less than the very finest freight car in the world!

NTERNATIONAL TEEL OMPANY
RAILROAD DIVISION • EVANSVILLE 7, INDIANA

Precision fabricators of correctively designed components:
UNDERFRAMES . . . SIDE ASSEMBLIES . . . DOORS . . . BULKHEADS . . . FLOORS . . . HOPPERS

Week at a Glance CONT.

Current Statistics

Operating revenues, one month	
1958	$778,425,405
1957	855,316,551
Operating expenses, one month	
1958	$650,042,010
1957	688,032,183
Taxes, one month	
1958	$73,310,916
1957	86,740,507
Net railway operating income, one month	
1958	$31,828,152
1957	58,564,460
Net income estimated, one month	
1958	$16,000,000
1957	44,000,000
Average price 20 railroad stocks	
March 11, 1958	69.76
March 12, 1957	88.73
Carloadings revenue freight	
Nine weeks, 1958	4,826,199
Nine weeks, 1957	5,884,783
Average daily freight car surplus	
Wk. ended Mar. 8, 1958	107,473
Wk. ended Mar. 9, 1957	6,111
Average daily freight car shortage	
Wk. ended Mar. 8, 1958	195
Wk. ended Mar. 9, 1957	2,247
Freight cars on order	
February 1, 1958	48,787
February 1, 1957	114,656
Freight cars delivered	
One month, 1958	7,219
One month, 1957	8,403

•

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Short and Significant

The case for deferred maintenance . . .

was set forth at the AREA convention last week by Rio Grande President G. B. Aydelott: "I'd a lot rather do a little deferring and face a day of reckoning than to stand flatfooted on principle and needlessly help my company slide into the pit of foreclosure." Considerable maintenance can be deferred—if it's part of a long-range program to extend the track-and-structure life, he contends. "Let's use this tool of reduced expense."

First locomotives to be equipped

with the Westinghouse Air Brake 26-L brake equipment have been completed by Electro-Motive. The locomotives are for the Milwaukee. All traction control equipment on the 10 GP-9 units is operated electrically. Air-operated contactors, reversers and cam switches are eliminated.

C&NW's commuter case . . .

opened before the Illinois Commerce Commission last week amid protests from Chicagoans and state legislators. The road wants to discontinue 23 close-in stations, revise its fare structure and hike fares 24%. C&NW Chairman Ben W. Heineman said he's willing to spend $6,000,000 for 36 new gallery cars "if the public and this commission share our hopes for the future of our suburban operations." The commission's examiner resisted efforts to split the case into rate and service phases. C&NW considers the two inseparable.

This year's winner of the Golden Spike award . . .

is the Hyatt Bearings division of General Motors Corporation. The award is given annually to the advertiser outside the railroad industry that is believed to have contributed most to better understanding and appreciation of American railroads. It is sponsored by the Association of Railroad Advertising Managers.

The Treasury Department has endorsed . . .

one of the railroads' tax proposals—the call for elimination of the 30% write-off for past depreciation which was made some 15 years ago. The write-off came with conversion from retirement to depreciation accounting for fixed property. The eliminator is part of a House-approved bill now before the Senate Finance Committee. Having lost cases to railroads which took the matter to court, the Treasury now says the eliminator would provide "a reasonable solution of a difficult problem."

A $4,160,000 airport bond issue . . .

took a beating from voters last week in Spokane, Wash. General obligation bonds would have been used to expand existing airport facilities there. The electorate vetoed the idea by a 3-to-1 margin. A big factor in the outcome: Combined opposition, expressed through a hard-hitting advertising campaign by six railroads and "tremendous cooperation" by railway labor.

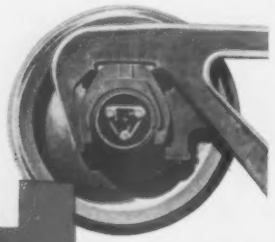
250 L&N ORE CARS "HY-ROLL" OVER 14,000,000 CAR MILES

Without a single hotbox!

4 Key Reasons Why Hy-Rolls Are So Dependable, Economical

The Hy-Roll design is the culmination of HYATT's experience in building more time-tested straight cylindrical roller bearings than any other maker. It has four key features:

1. Straight cylindrical rollers provide greater load-carrying capacity and longer life.
2. Fewer parts simplify maintenance.
3. Generous race flanges absorb lateral thrusts.
4. Positive seals retain 3-year grease supply, prevent damage from foreign matter.



Another GM contribution to railroad progress

In April, 1954, 250 Louisville & Nashville 90-ton ore cars, equipped exclusively with HYATT Hy-Rolls, went into service hauling Venezuelan iron ore from the Mobile docks to Birmingham steel mills. Since then they have averaged 50 miles per day, or 58,050 miles per car as of June 1, 1957—a total of 14,512,500 car miles without a single hotbox delay. Compare this record with your average car mileage per hotbox and you'll see why more and more lines are switching to HYATT Hy-Rolls!

What's more, Hy-Rolls practically eliminate inspection-lubrication costs and delays. And they assure substantial added savings on upkeep because they have fewer parts than other roller bearings, plus such longer-life features as races forged of finest high-nickel steel.

Remember—a freight car can earn a lot more net profit when you replace its "Achilles heels" with HYATT Hy-Roll Bearings! Hyatt Bearings Div., General Motors Corporation, Harrison, N.J.

GM FORWARD FROM FIFTY

HYATT HY-ROLL BEARINGS

FOR NON-STOP FREIGHT

Research: Ace Card in the RR Hand

The railroads' brightest hopes, Faricy tells AREA convention, lie in intensified research. AAR chairman unwraps plan for expansion of Research Center in Illinois as others echo call for "teamwork" approach.

In the game of survival, railroads have been dealt some pretty weak cards.

There's one card they hold on which they bank heavily to give them a winning hand. That card is represented by research.

The railroads' faith in research as a means of helping them solve their problems was stressed last week at the annual convention of the American Railway Engineering Association.

"Research has never been so important to the industry as it is now," declared William T. Faricy, AAR board chairman and chief executive officer. "Never has it carried such a great responsibility—notwithstanding the fact that railroads are realizing, on every front, the benefits of more than a century of accumulated scientific development and technological research."

Mr. Faricy was keynote speaker at the convention's opening session. He discussed the railroads' official policy toward research. Other speakers told in specific terms what's being done to implement that policy.

Here are the two main points made by Mr. Faricy:

- Despite the decline in railroad business, the AAR's research program is being continued as planned.
- A fourth building will be added to the association's facilities at its Chicago Research Center.

Mr. Faricy said the decision to maintain the research program "at the high level of activity we had planned for it," was made "last month. On my recommendation and in recognition of drastically curtailed carloadings and revenues, the AAR board then cut the rate of assessment by 20 per cent." To do otherwise than maintain the research program would be "false economy," he said. "Research is a job that is never completed."

Mr. Faricy's reference to the proposed new research building was the first public announcement of this venture. He said that, on the day of his address, "we are exercising our option to acquire further land on the Illinois Institute of Technology campus for construction, possibly in 1959, but almost certainly in 1960, of a fourth building in the Research Center. It will be known as the AAR Science Laboratory."

Space will be included in the new building for a nuclear reactor "whenever the AAR needs it, which I think will be soon," Mr. Faricy said.

The building will contain an electronics laboratory and will provide for metallurgical research laboratories, analysis of gases and exhausts, and development of new fuels and lubricants for locomotives and cars.

Another step to strengthen AREA research activities was announced by Ray McBrian, the association's president.

"Last month," he said, "at a special meeting of the board of directors, creation of a new research committee was authorized. It will be the responsibility of this committee, he explained, "to review your suggested research projects and to help AAR officers to formulate future research programs for securing maximum research effort for the least cost."

Mr. McBrian, Denver & Rio Grande Western director of research, said he is in favor of accelerated research programs.

Through such programs "greater economies and efficiencies will be obtained," he added.

Mr. McBrian is also convinced that "we must enter immediately into the field of basic and fundamental research as pertaining to transportation." He cited a study by the Institute of Solar Terrestrial Research to determine the solar influence on long-term weather trends and the possibility of making long-range weather forecasts.

(*Continued on page 13*)

HERE ARE THE ENGINEERING ASSOCIATION'S NEW OFFICERS . . .

B. R. MEYERS
President
Chief engineer, C&NW

F. R. WOOLFORD
Senior vice-president
Chief engineer, WP

E. J. BROWN
Junior vice-president
Chief engineer, CB&Q

BLE Chief Urges Rail Diversification

Guy Brown says integration of rail service with air, water and highway service would create more railroad jobs. Other labor leaders disagree.

Guy L. Brown emerged last week as a champion of integrated rail-highway-air-water transportation.

Mr. Brown is Grand Chief Engineer of the 75,000-member Brotherhood of Locomotive Engineers.

The railroads, Mr. Brown said, "should be able to engage in the air, highway, and water transportation business, coordinating the various forms to give the best possible service to the public, offering such services alone, or in combination with rail transportation."

The result, he predicted, would be more railroad jobs—not fewer.

"The transportation business more and more is going to those who have little concern for the welfare of railroad employees," he said. "Rail management maintains that granting them the right to diversify would mean more jobs and steadier jobs for their employees, including locomotive engineers. I think they should be given the chance to prove it."

Mr. Brown's views are in sharp contrast with those of some of his fellow railroad unionists. They fear a loss of railroad jobs if the railroads are permitted to engage in other forms of transportation.

"If railroads get unrestricted trucking rights, there won't be any light traffic lines left in ten years. Trucks will have replaced them," said one labor spokesman. He shrugged off the railroads' integration campaign as an "exercise in futility," and predicted it would not get any Congressional action this session.

During the Smathers hearings, 14 railroad witnesses urged Congress to permit railroads to sell "department store transportation"—and not just rail service.

Railroad labor is to testify before the Smathers subcommittee within the next few weeks. Its official stand on the service-integration issue is still in doubt.

In two meetings, representatives of the AAR and the Railway Labor Executives Association have failed to reach agreement on integrated transportation and other legislative recommendations. They will meet again in Washington March 25 in an effort to reach common ground before the labor witnesses go to Capitol Hill.

Mr. Brown, who only recently joined the RLEA, did not attend the first two meetings of the labor and management representatives. He is expected to participate in the March 25 talks.

The BLE chief aired his own views on transportation integration in last week's issue of the brotherhood's newspaper, The Locomotive Engineer.

He urged the repeal of "obsolete regulations" which prevent railroads from engaging in other forms of transportation.

"These regulations certainly aren't protecting the jobs of rail employees; rather, they are helping to eliminate them," he said. "The latest Interstate Commerce Commission figures show the number of railroad employees to be the lowest since the turn of the century.

"I don't think permitting railroad companies to use trucks, buses, planes or barges could make this trend worse," he added. "Quite the opposite. I am convinced that if the carriers are given the right to supplement, coordinate, and offer their service by the effective use of other forms

(Continued on page 74)

Watching Washington *with Walter Taft*

• **PREFERENTIAL ROUTING** agreements must go. The United States Supreme Court has outlawed them as violations of the Sherman Anti-Trust Law.

THE AGREEMENTS are in many contracts under which railroad-owned land has been purchased or leased by shippers. Usually, they provide that all commodities produced or manufactured on the land involved shall be shipped over lines of the railroad seller or lessor—if its rates are no higher than those of competing carriers.

THE COURT'S 5-TO-3 DECISION, upholding a lower court ruling, dealt specifically with preferential routing clauses of Northern Pacific land-lease contracts. But it was a general condemnation of all such arrangements. The case arose out of a suit filed by the federal government ten years ago.

LIKE PRICE-FIXING AND TIE-IN SALES is what the Supreme Court said of the assailed agreements. That makes them practices, "which because of their pernicious effect on competition and lack of any redeeming virtue are presumed to be unreasonable and therefore illegal without elaborate inquiry as to the precise harm they have caused or the business excuse for their use."

DISSENTERS COMPLAINED that the lower court did not send up a record justifying the majority ruling. They cited lack of evidence that NP controlled the market for land of the type involved in its leases. And they chided the majority for its reliance instead on "common sense" and "judicial notice" of the road's "commanding position." These they called "poor substitutes for the proof to which the government should be put."

• **COMPETITION - TRIMMING PHASES** of carrier mergers and acquisitions of control are now getting critical scrutiny at the ICC. The commission has served notice that it expects applicants in these Section 5 cases to support their proposals "in keeping with legislative standards as interpreted by the Supreme Court."

THE NOTICE WAS SERVED in a report calling for more evidence in a big truck-merger case—the proposed absorption of Union Transfer Company by Pacific Intermountain Express Company. It came after the commission mentioned its "serious responsibility" to give consideration to the effect of such transactions upon competing carriers and adequate transportation service. The commission also recalled how the Supreme Court has emphasized that Congress did not intend to make the anti-trust laws wholly inapplicable to the transportation industry.

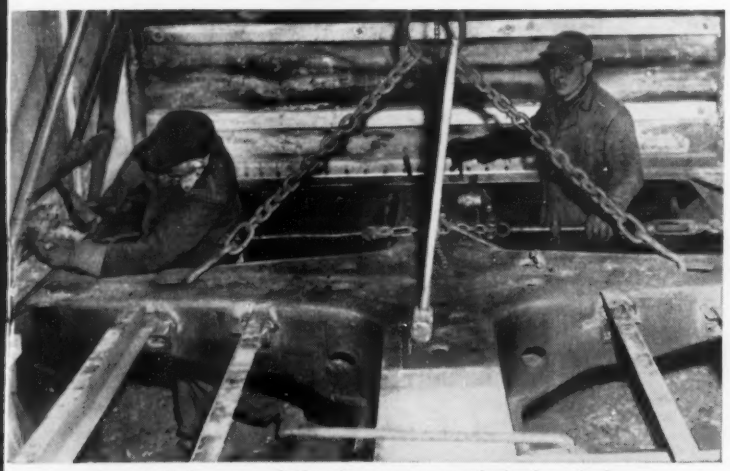
Where railroad progress is cast in steel....

Today–more and more
railroads order Commonwealth cast steel
underframe ends for new or
existing freight equipment

One-piece cast steel underframe ends decrease maintenance costs and "in shop" time on box cars, refrigerator cars and other types of freight equipment. Integral body bolsters, draft gear pockets, strikers, coupler carriers and center plates provide many advantages for new or rebuilt cars.

- eliminate body bolster failures
- increase car life
- provide greater strength at draft lugs
- resist rust and corrosion
- meet AAR code for interchange

Here is a proved way to get longer freight car life with reduced upkeep costs—now in service on many progressive railroads.

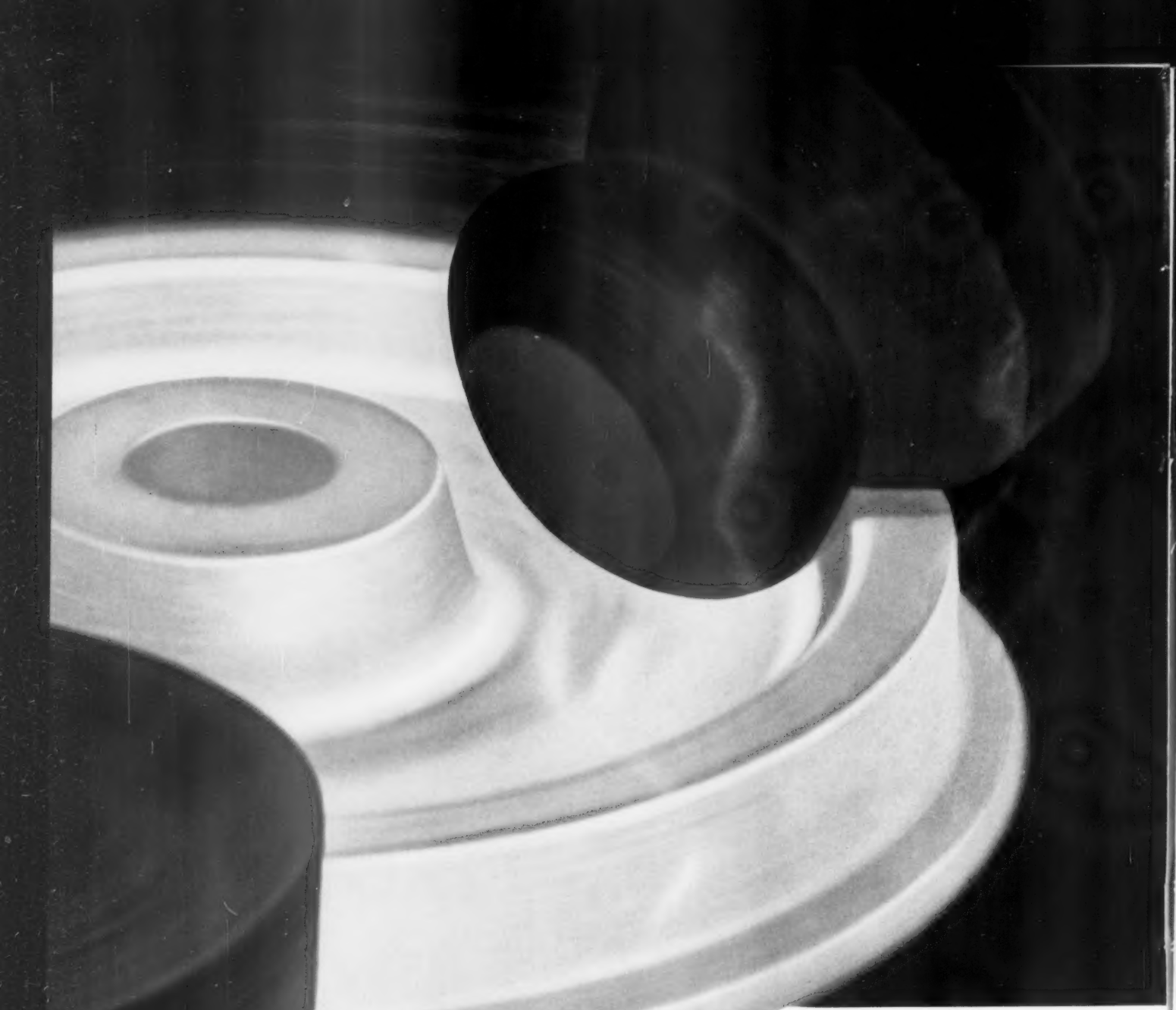


In rebuilding an existing box car, a cast steel underframe end is readily fitted into place.

GENERAL STEEL CASTINGS

GRANITE CITY, ILL. · EDDYSTONE, PA. · AVONMORE, PA.

GEARED TO PROGRESS P R I MEMBER



there are more miles in

Edgewater

rolled steel wheels

because of the uniform physical properties produced by the rolling process

GEARED TO PROGRESS
P R I
MEMBER

Edgewater Steel Company
P. O. Box 478, Pittsburgh 30, Pa.

Among those inspecting the convention's equipment exhibition were . . .

(at the left), J. S. Parsons, assistant chief engineer maintenance of way, Erie; F. N. Snyder, supervisor work equipment and welding, Erie; L. H. Jentoft, engineer maintenance of way, Erie; and C. H. Anderson, vice-president, Stanley H. Smith & Co.—(in the center), W. C. McKay, vice-president, sales, Kershaw Manufacturing Company; C. Russell Riley, chief engineer maintenance, Baltimore & Ohio; J. L. Dell, track supervisor, B&O; and W. G. Stagge, division engineer, B&O—(at the right), W. B. Blix, manager, railway equipment division, Nordberg Manufacturing Company; R. K. Johnson, superintendent work equipment and reclamation, Chesapeake & Ohio; and R. S. Radspinner, supervisor roadway machines and equipment, C&O.

(*Continued from page 9*)

Such studies open up the possibility, he said, of forecasting how heavy snows and rains will influence maintenance conditions.

Basic and fundamental research could also be directed toward "establishing the merits of new transport systems." Railroads could then prepare themselves to participate in such systems or to find out how to meet the new competition.

Mr. McBrian mentioned two attitudes that he feels will be helpful in furthering railroad research. One is to "give our support" to the AAR research agency by making suggestions for research projects. The other is to "be critical of our own research programs and of the results we have secured by whatever agency has made such studies. We must be ready to condemn our own erroneous research efforts and just as ready to accept research efforts of others which can be successfully utilized and applied . . . in the railroad industry."

Teamwork as a means of furthering railroad research was emphasized by W.M. Keller, newly appointed AAR vice-president—research.

Teamwork in research means several things to Mr. Keller. For one, it means "the coordination and cooperation of those who conduct the research work with those who make actual use of the developments of the laboratory in practical applications in the field. It would be most inaccurate to say we do not now have this teamwork in a high degree. My appeal is to keep this teamwork and expand it."

"We will install this year in the AAR Research Center, at a cost of $160,000, hydraulic pulsating equipment for research on ballast, tie wear and structural spans. This will be the best equipment of its kind in the United States. It will greatly accelerate research on these projects. It is evident, however, that each member road [of the AAR] could not afford such an expenditure for this single item."

Teamwork in research also means interdepartmental cooperation, according to Mr. Keller.

He referred to the AAR Joint Subcommittee on Relations between Track and Equipment. "In this committee the dual problems of locomotives and cars and track are cooperatively studied. Here the engineering and mechanical people mutually work out such matters as clearances and relation of load to wheel diameter."

Another kind of research teamwork was mentioned by G. B. Aydelott, president of the D&RGW. Speaking at AREA's annual luncheon, he made a plea for the "personal touch—that appeal to pride of accomplishment that exists in all of us."

"Let's use people like Ray McBrian," he said. "Don't let them get away with doing just research. Feed them problems so they'll point their research toward saving dollars instead of just doing research."

What about actual research work being done? This was described by G. M. Magee, AAR director of engineering research. He cited the more important projects now being carried out under the direction of the research staff. The scope of this list led Mr. Magee to conclude "that the Research Center engineering staff had a busy year."

Greyhound Spurns Taxpayers' Dole

When a man bites a dog, it's news. It's also news when a private bus company battles with a tax-supported authority for the right to build its own passenger terminal with its own funds.

Such a battle is now going on in New York City.

The Port of New York Authority spent $24 million in public funds to build a handsome union bus terminal west of Eighth avenue. The Port Authority wants Pennsylvania Greyhound for a tenant. It's fighting Greyhound proposals to expand the Greyhound terminal on 34th street.

Greyhound originally declined an invitation to become a tenant in the tax-built union terminal for a good reason: it had a better location. Furthermore, it wanted to preserve its identity.

But the Port Authority has successfully beaten down eight Greyhound attempts to win the city's permission to expand the existing Greyhound terminal. The Port Authority argues it is interested only in preventing further midtown congestion. With every such argument the Port Authority repeats its invitation for Greyhound to join its own roster of tenants.

Greyhound now has renewed its talks with the City of New York on the question of expanding its own terminal, rather than going on the taxpayers' dole. The Port Authority has renewed its fight against any such expression of independence by private enterprise.

It remains to be seen whether private enterprise can win the right to pay its own way—and retain its distinctive identity—or whether it will be forced to take another handout from the taxpayers.

With the largest RDC fleet in the world, the B&M shows . . .

How to Harness Passenger Costs

"Multiple-unit suburban service without electrification."

That's a good description of the most spectacular phase of the Boston & Maine's RDC operations. The road got its first RDC only six years ago; today it owns the world's largest fleet of these diesel-mechanical, stainless-steel, Budd-built cars. Workhorses used in every type of passenger service, these cars have been the biggest factor in helping the B&M control spiralling costs.

Even with them, however, the B&M's ICC passenger ratio has fluctuated around an unhealthy 160% during every one of the past six years. Without RDCs, it would be much higher today.

More than 90% of the B&M's passenger miles will be produced by the RDCs in 1958. The 108 cars are now running up what should be well over seven million car miles by year end—an average of over 200 miles for each car each weekday. This high daily average for a fleet with a majority of its units in short-haul territory gives an idea of the utilization the Boston & Maine has achieved by taking full advantage of RDC characteristics.

For the B&M, the most helpful traits are:

Rapid turn-arounds, simplicity of changing the number of cars in a train; and uniform acceleration qualities, regardless of the number of coupled cars.

Seating, interior arrangement, and riding qualities make these cars suitable for the road's longest runs. At the same time there is ample capacity for short hauls. One of the B&M's keys to high utilization has been the assignment of some of the cars to part of a day on intercity routes and the remainder of their working hours in suburban territory.

This is particularly important to the B&M because of the very nature of its passenger service. It radiates over 19 separate routes from four main lines out of North Station, Boston. There are also a few passenger runs not Boston-based.

It has been possible, since the introduction of these rail diesel cars, to retire a large amount of passenger equipment.

Since February 1955, the B&M has retired the following passenger equipment:

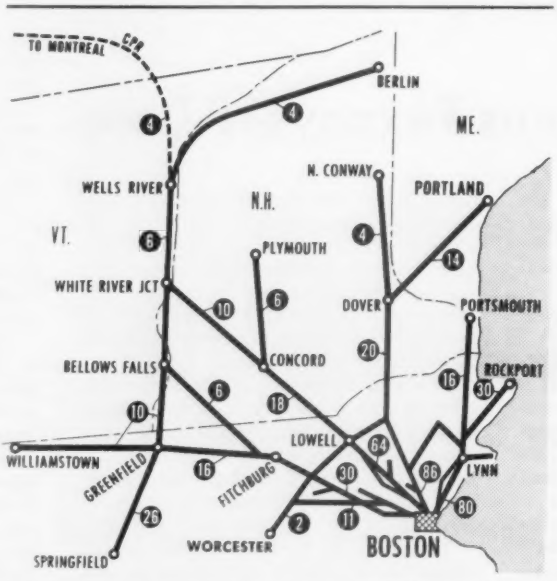
Forty air-conditioned coaches; 332 non-air-conditioned coaches; 56 combination baggage-smokers; 5 gas-electric cars and trailers; 4 railway post office cars; one 3-car articulated streamlined train.

In addition to these 440 cars, 67 steam locomotives were retired completing the road's deiselization. Approximately twenty diesel locomotives have been released for other service. While even the B&M admits that a few of these equipment retirements could be attributed to recent drops in traffic levels, these are insignificant in relation to retirements brought about by the overall RDC program. About twenty more cars are now due for retirement since the B&M's five newest RDCs went into service.

Along with the rolling stock re-

(Continued on page 20)

By F. N. HOUSER, JR.
Associate Editor



Passenger trains everywhere sums up B&M's complicated operation. Typical passenger train densities on some lines are given by circled figures.

Why this overwhelming preference for **Borate*** *weed killers*

The answer lies in the dependability of borates to perform satisfactorily, safely, economically in destroying vegetation and preventing regrowth.

As the largest producer of borates in the world, we early recognized their plant-destroying properties. Then, before pioneering the specific use of borates for killing weeds, we did much field work and extensive laboratory research which proved their effectiveness conclusively. Our first weed killer, a sodium borate ore under the trade name of "BORASCU®", went to a major railroad on a trial demonstration basis. Results were extraordinary! Control of vegetation continued up to two years! This borate ore, as a highly effective, easily applied soil sterilant, also offered every desired safety feature by being nonpoisonous, nonflammable, and noncorrosive to ferrous metal. Soon, road after road began using this weed killer successfully and with marked economy. Tests conducted by one major road, about timber trestles on approximately 250 miles of track, showed a cost reduction from $1.48 down to only 19½¢ per lineal foot per year! (A total saving of $28,314.00.) With the acceptance of borates for weed work assured, we began developing other weed killers to meet various requirements. Now, a majority of roads are using one or more of our weed killers in preference to any other.

Today you have a choice of several safe and proven herbicidal borate formulations—each with special characteristics and advantages—to meet *your* particular requirements. We'd like to show you how you can start a labor-saving, dollar-saving weed control program... with borates. May we send a technically trained salesman to recommend and demonstrate the weed killer best suited to your needs?

AGRICULTURAL SALES DEPARTMENT

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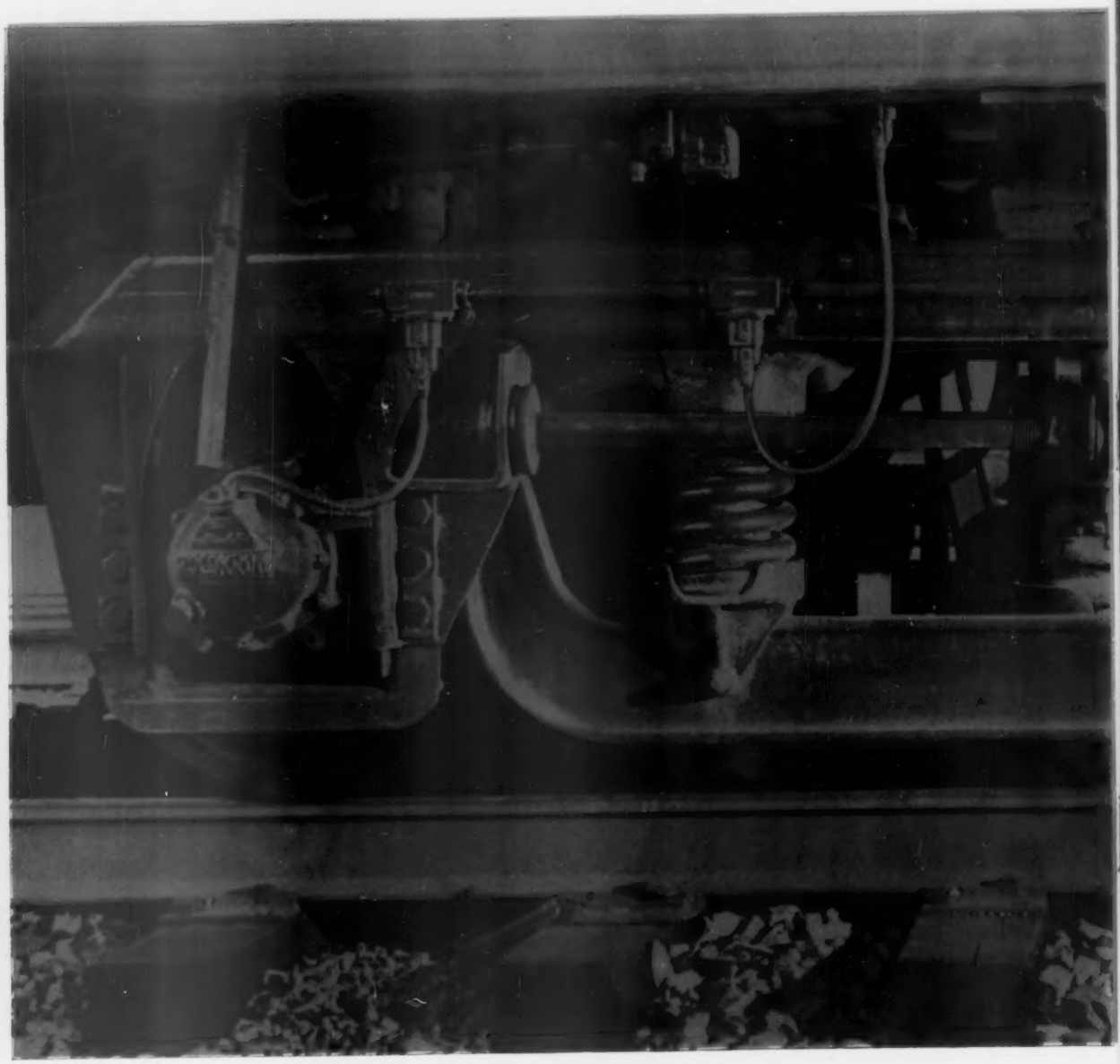

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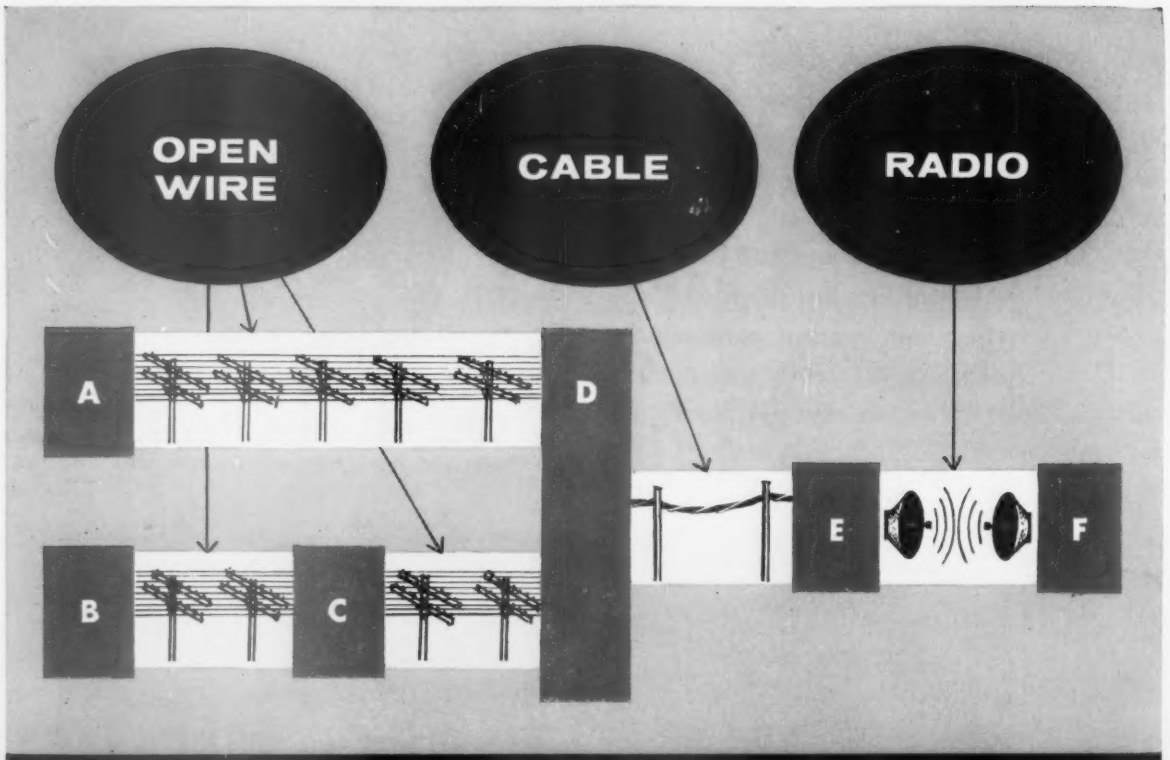

45-CLASS CARRIER NETWORKS give you direct interconnection

AT CARRIER FREQUENCIES

ABOVE NETWORK INCLUDES:

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Type 45A

LOCATION B
Type 45CB

LOCATION C
Type 45CB base group terminal
Type 45A terminal
1 pre-group connector

LOCATION D
2 Type 45A base group terminals
Type 45BN base group terminal
2 base group connectors

LOCATION E
Type 45BN base group terminal
Type 45BX terminal
2 base group connectors
Radio terminal

LOCATION F
Type 45BX terminal
Radio terminal

Direct interconnection is the basis of Lenkurt's famous 45 "universal" class of carrier systems. Each of these carrier systems —open-wire, cable and radio—is designed to connect directly with the others *at carrier frequencies*. Thus, your entire carrier network can be completely coordinated. Think of the savings and improved performance this means to you! Expensive back-to-back equipment arrangements to convert carrier to voice frequencies, and then back to carrier, are no longer needed. Maintenance is simpler. Distortion is reduced. Here is a new approach to planning and engineering your toll routes.

The systems of the 45 class offer other important savings, too. *Miniaturized* components permit a maximum number of channels in minimum space. *Plug-in construction* means more flexibility in applications and fewer parts to stock. And you save on installation labor because Lenkurt 45-class carrier comes factory-assembled, rack-mounted and tested as a system.

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16¢ PER UNIT MILE

with GM Diesel-powered Budd RDC's

The Boston and Maine Railroad, world's largest user of Budd Rail Diesel Cars, reports total maintenance costs of only 16 cents per unit mile for their 104 GM Diesel-powered Highliners.

Here are vital statistics for the B & M fleet—74 powered by *two* GM "6-110" engines, 30 powered by *one* "6-110" —used mainly in commutation service in the Boston area:

Average total miles per month.....700,400
Average miles per unit per month.....6,800
Average fuel consumption per unit mile..... .59 gal.
Average lube consumption per 100 unit miles....1.39 gal.
Average mileage between engine overhauls.....175,000

Remarkable records for low-cost, on-time performance with GM Diesel-powered Budd RDC's are reported by railroads everywhere. Whether you are in the market for rail Diesel cars or modern maintenance-of-way equipment, it pays to get all the money-saving facts on GM 2-cycle Diesels. Call your nearest distributor—or drop us a line.

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Now—more than ever—it pays to standardize on GM Diesel—available in 1485 applications of power equipment built by more than 175 manufacturers

Parts and Service Worldwide

Boston-bound commuters board the 8:18 (AM) B & M Highliner at Hastings, Mass. Schedule for the 27-mile run is 50 minutes.

Finding a place on almost every B&M passenger route, the ubiquitous RDCs have been producing savings of about $2.5 million a year. They've eliminated steam locomotives. Now they're taking a bite out of passenger mileage with diesel locomotives. Total B&M passenger train miles are down eight per cent in the last five years. Steam operation is out—use of diesel locomotives in passenger service, in effect, is down 42%.

(*Continued from page 14*)
tired, considerable property has been released. Of four coach yards adjacent to Boston's North Station, two have been completely vacated. One of these is now being used for piggy-back loading, and the other has been made available for industrial development. Outlying coach servicing facilities and engine terminals at Wilmington, Clinton, Stoneham and Marblehead have all been eliminated.

Operations of coach and locomotive servicing installations at Concord, and Dover, N.H., and at Haverhill, Mass., have been drastically curtailed. For example, while formerly five or six commuter trains and their locomotives laid over each night at Haverhill, now only two RDC trains are scheduled to lay over there.

The B&M's RDC fleet of 103 cars is

CYCLE A

FROM CYCLE B OF PREVIOUS DAY

Train			Schedule	Trip Miles	Running Time	Division	Stops
106	L	Haverhill	5:10 am	0	0	Western	
106	A	Boston	6:22 am	32.9	72	"	17
293*	L	Boston	6:35 am	0	0	Eastern	
293*	A	Lynn	6:51 am	11.6	16	"	0
2110	L	Lynn (Via Saugus Branch)	7:10 am	0	0	"	
2110	A	Boston	7:53 am	13.5	43	"	15
399*	L	Boston	8:23 am	0	0	N. Hamp.	
399*	A	Wilmington	8:43 am	15.2	20	"	0
3316	L	Wilmington	8:55 am	0	0	"	
3316	A	Boston	9:27 am	15.2	32	"	6
To Shop for Inspection and Servicing							
127	L	Boston	12:35 pm	0	0	Western	
127	A	Haverhill	1:50 pm	32.9	75	"	11
156	L	Haverhill	2:20 pm	0	0	"	
156	A	Boston	3:28 pm	32.9	68	"	12
141	L	Boston	3:55 pm	0	0	"	
141	A	Haverhill	4:47 pm	32.9	52	"	7
166	L	Haverhill	5:30 pm	0	0	"	
166	A	Boston	6:30 pm	32.9	60	"	11
3339	L	Boston	6:50 pm	0	0	N. Hamp.	
3339	A	Lowell	7:38 pm	25.6	48	"	11
3346	L	Lowell	8:00 pm	0	0	"	
3346	A	Boston	8:50 pm	25.6	50	"	5
To Shop for Inspection and Servicing							
2549	L	Boston	12:01 am	0	0	Eastern	
2549	A	Rockport	1:10 am	35.3	69	"	10

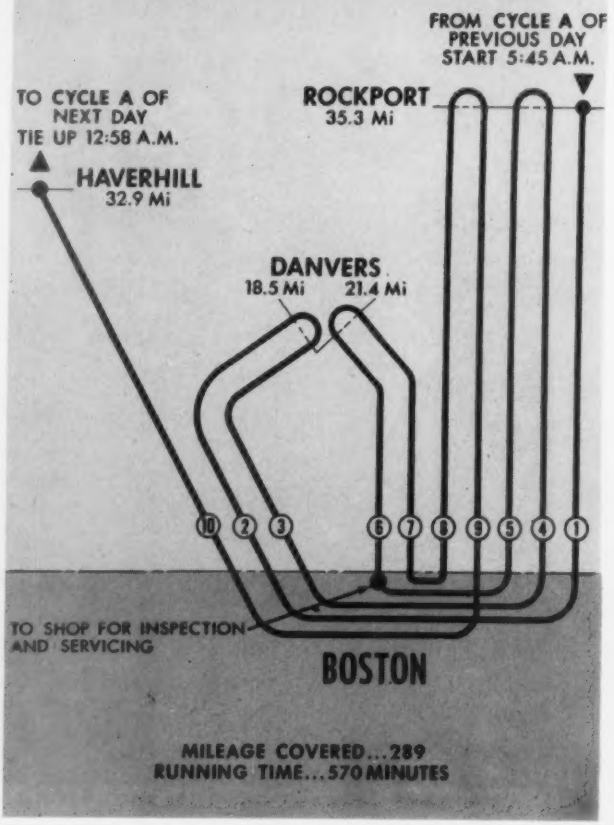
TO CYCLE B OF NEXT DAY

*Deadhead trip without passengers

MILEAGE COVERED...319
RUNNING TIME...605 MINUTES

TYPICAL USE of RDCs is shown here. Three-car trains worked opposite each other on alternate-day basis.

CYCLE B


FROM CYCLE A OF PREVIOUS DAY START 5:45 A.M.
TO CYCLE A OF NEXT DAY TIE UP 12:58 A.M.
ROCKPORT 35.3 Mi
HAVERHILL 32.9 Mi
DANVERS 18.5 Mi 21.4 Mi
10 2 3 6 7 8 9 5 4 1
TO SHOP FOR INSPECTION AND SERVICING
BOSTON

MILEAGE COVERED...289
RUNNING TIME...570 MINUTES

Now-revised schedules are plotted two ways. Cycles are interchangeable.

How RDCs Help Hold the Line

Year	Total Passenger Miles	Ratio of Commuters to Total Passengers (%)	ICC Fully Apportioned Net Passenger Loss: Oper. Ratio (%)	ICC Fully Apportioned Net Passenger Loss: Dollar Deficit	Passenger Train Miles: RDC	Passenger Train Miles: Diesel	Passenger Train Miles: Steam	Passenger Car Miles: Total	Passenger Car Miles: % RDC to Total	RDC Units Owned at Year End
1957	310,991,803	61.2			2,869,047	2,628,098	0	24,967,510	30.7	103
1956	358,532,369	58.3	162.1	$13,679,000	2,157,151	3,573,976	22,214	30,414,159	20.9	103
1955	354,882,710	57.0	156.4	$12,250,000	1,471,724	4,171,612	112,029	32,179,170	12.1	72
1954	371,585,709	57.1	168.7	$15,159,000	710,876	4,590,165	523,126	32,666,638	3.0	72
1953	401,882,145	56.8	153.4	$12,976,000	463,489	4,602,086	647,720	33,992,188	2.0	9
1952	433,067,454	58.1	145.3	$12,195,000	184,730	4,521,276	963,172	35,527,021	0.7	9
1951	437,959,705	63.0	167.3	$15,030,000	1,434*	4,040,645	1,757,984	36,739,349	0.0	0

* Original Budd demonstration

composed of the following:

RDC-1 (full coach) 56
RDC-2 (coach-baggage) 15
RDC-3 (mail baggage-coach) 3
(mail-coach) 4
RDC-9 (full coach) 30

These RDC-9s are the only such cars now in service on any railroad. They are single-engined cars without cab controls and with standard coach vestibules. Because RDC-9s have no cabs, they cannot be used at the front of trains. The B&M readily admits that these cars may have cut the flexibility of its RDC operation, but this must be balanced against their lower initial cost and some possible fuel savings. Most RDC-9s are assigned on a one-to-one ratio with a standard two-engined RDC.

Ten of the train which handle these cars are assembled this way; but, four other trains have three RDC-9s with two regular RDCs in the consist. Approximately 10 of the B&M's RDC cars are not regularly assigned at any one time. It is the B&M's practice to assign the RDC-9s specifically and keep RDC-1s for the spares because of their greater flexibility.

Nineteen of the 108 cars are regularly assigned to specific runs. Among these are the RDC-3s with their RPO facilities. and 10 cars which have automatic train control equipment for use on the railroad's Fitchburg division.

Shorter, Faster, Fuller

As B&M experience with commuter RDCs increases, a gradual change in operating philosophy takes shape. Long-distance suburban trains no longer make stops in short-haul commuter zones. Hangover practices from steam-days resulted in trains, with many coaches filled for only the last few miles of each run.

This same operation today is handled often by two RDC trains. To do this has frequently meant an increase in train miles with a drop in total car miles. In the overall picture, car miles are now down about 35% while train miles are only down 10% in the suburban zone. The result has been shorter, faster, fuller trains.

Fast trains are standard with B&M RDC operation. On most runs, the cars are limited to 70 mph. However, the B&M takes full advantage of the high-horsepower accelerating characteristics of these cars. On the main line to Portland, for example, there used to be two Dover-Boston commuter trains which picked up most of their passengers at Haverhill, about half way on the 67-mile run. Both trains made many local stops and ran on a slow schedule because of their inability to accelerate rapidly from the numerous stops. They arrived in Boston approximately 40 minutes apart. With RDC quick-start qualities it has been possible to replace these two trains with a single RDC run.

Under the new schedule, the RDC train leaves Dover on the time of the original second train, arrives in Boston at the same time the first train did, and makes all of the first train's local stops.

Even with the wide-spread use of RDC's, it is still necessary for the B&M to operate some 85 diesel-hauled standard coaches and combination cars in suburban service. Long-distance and overnight main line runs require another 50 cars. These totals include approximately 40 cars in excess of normal requirements to protect peak-season passenger loads, and permit shopping of cars.

One big factor in reducing passenger service costs has been elimination of most of the ice-activated air-conditioned cars. Remaining cars are concentrated on two routes to cut down expensive servicing and ice storage needs at many line points.

The B&M has produced a relatively stable suburban operation with about the maximum possible utilization of all rolling stock now engaged in this service. Because of the rapid turn-around possible with these RDC cars, it has frequently proved more economical to eliminate overnight layovers and servicing at outlying points by deadheading equipment to some other terminal after its revenue trip is completed. This does not mean that all cars tie up in Boston. Actually, slightly more than half of them are kept at outlying points. Fourteen cars tie up at Lowell, nine at Haverhill, 15 at Portsmouth, seven at Dover and eight at Rockport. Cars in long-distance and branch-line service terminate at Greenfield, Portland, White River Junction, Williamstown and North Conway.

It has been possible to concentrate all heavy maintenance and most servicing at Boston. Nearly every car comes to Boston every day, and it is possible to operate any car on the railroad into Boston by coupling it into an RDC train at some point on its run. In some cases this type servicing is performed on weekends.

The B&M has just put into service a special Budd Car servicing building at the Boston terminal. Details of the new setup are covered in a following article which starts on page 24. Heavy repairs on the 300-hp diesel engines and transmissions for the cars are made at Billerica —the B&M's locomotive back shop.

Meeting the Peaks

Even with the 108 RDC cars being used much more intensively than the much larger coach fleet previously assigned to these services, Friday afternoons are the only times when the RDC fleet is

(*Continued on page 24*)

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Field and Laboratory Tests Prove that Sinco Car Oil #355, Compounded from Natural High Quality 100 Plus V.I. Oils (No V.I. Improver), Gives You Important Advantages.

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Chicago • St. Louis • Houston.

SINCLAIR Railroad Lubricants

(*Continued from page 21*)
pressed to cover assignments. The regular suburban trains must be run. Simultaneously, consists of other trains to beaches and mountains must be expanded to handle weekend traffic. The normal 10% of the RDC fleet unassigned at most times is thrown into this breach and some of the heavier commuter trains may be run one car short in emergencies. The B&M has regularly scheduled as many as eight RDCs in a single suburban train under some of its timetables, although the limit in the present schedule is seven.

An interesting phase of the long distance operation has been the pooled RDC service with the Canadian Pacific on the Boston-Montreal day trains. Each road assigns an RDC-1 and an RDC-2 to this pool. They operate through between the terminal cities, have cut several hours off the old schedule, and were scheduled to make it possible to eliminate dining car operation. The B&M adds one more of its own RDC-1s to this train between Boston and White River Junction.

In 1956 the operating costs of the RDC train and the diesel-locomotive-hauled trains on the B&M compared as follows:

	RDC Trains		Diesel Trains	
	Per Train Mile	Per Car Mile	Per Train Mile	Per Car Mile
Wages	$.859	$.295	$.983	$.162
Fuel	.178	.061	.259	.043
Locomotive Repairs	..	..	.365	.060
Car Repairs	.610	.210	.388	.064
Total	1.647	.566	1.995	.329

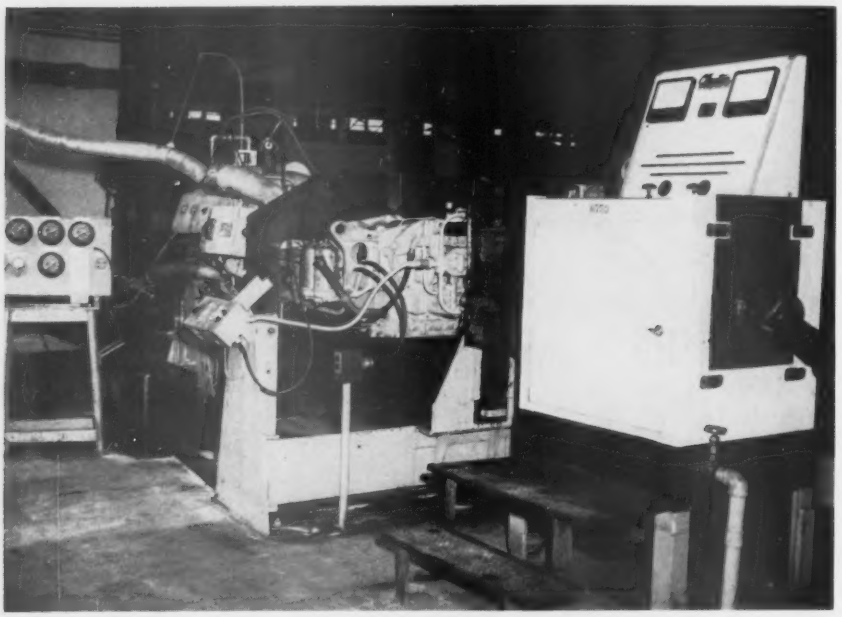
With the growing number of RDC cars, conventional train services tend to concentrate in three fields. Today B&M trains hauled by locomotives are mostly the interline runs with through coaches, sleepers, and head-end traffic; solid mail and express trains operated solely on the B&M; and the very shortest commuter runs usually with a large number of coaches.

All in all, RDCs produce over 90% of the passenger miles while they accumulate just over 50% of the passenger train miles. RDCs have not eliminated losses incurred by the B&M in its passenger operations. But they have braked steeply-climbing costs.

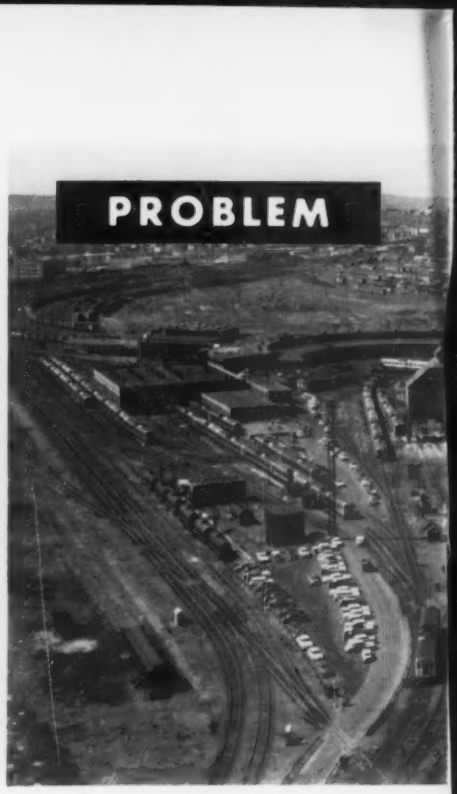
Currently pending in states where the B&M operates passenger service are petitions which would reduce the passenger train mileage by a third. This is not as drastic as it might appear. Trains would be consolidated on some runs where there is duplication of service, and a few branch line operations would be eliminated entirely. The B&M has found little present demand and no potential for any of the services involved in these train-off actions.

If the one-third reduction in train miles is achieved, the B&M expects to perform almost all its passenger service with the 108 RDC cars and the recently-acquired Talgo train. Only a few standard interline and head-end trains would then be operated.

Financial results of the RDC program were recently summarized by one B&M man: "RDCs have made all the savings they were intended to make, and more."

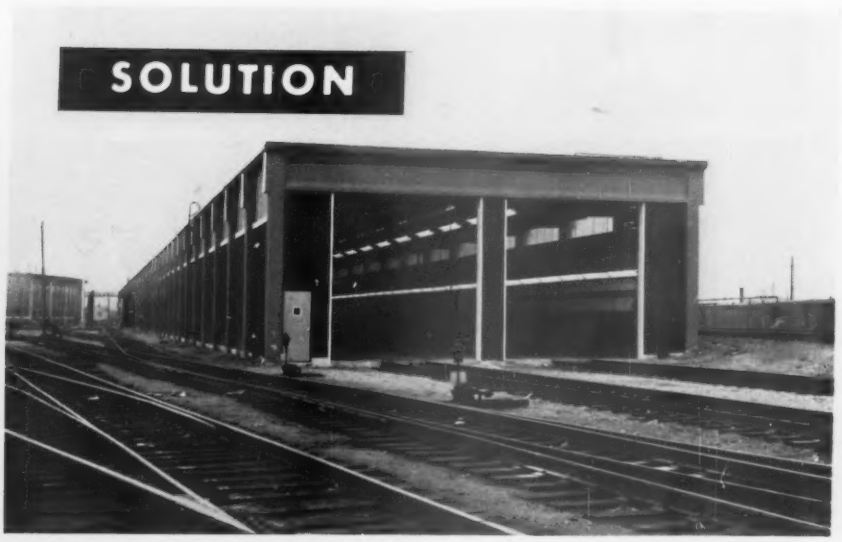


THOROUGH OVERHAULS are given diesel engines at B&M back shop at Billerica. They are completely load tested on this dynanometer before being shipped to running maintenance terminals for installation.



Rapid

To get the most out of the workhorse RDCs, the B&M keeps them hauling passengers as much as it can. Easing the job is a new servicing setup at Boston. The RDC fleet is big enough, important enough, for this special facility. It's built just for the Budd cars. Like them, it's built for speed.



CONGESTION in locomotive terminal at Boston (left) was eased with construction of new shop at right in photo. Concrete servicing building was fitted between one of the main lines and roundhouse (above). Production line servicing is now possible.

Servicing Keeps RDCs Rolling

Quick turn-arounds are vital to the B&M's intensive utilization of its RDC fleet. A key to this is the $1.5 million Budd servicing facility which has just been opened at Boston.

The first few RDC cars received in 1952 fitted into the pattern established for service and maintenance of diesel locomotives. Starting in 1955, the big RDC fleet began to crowd the locomotive terminal. Either only one train could be accommodated on each servicing track at a time, or a back-up move through tower-controlled territory was necessary.

A typical six-car RDC train required several fueling and sanding stops when handled at locomotive servicing platforms. In addition, the locomotive terminal was centered around a turntable, making through-type servicing for the RDCs impossible. Climate is another factor, and it was decided that a weather-proof arrangement would be worth-while.

From the beginning of planning for this new facility, the aim was to develop a two-track, high-speed service building—not a maintenance shop. Engineering planning began in January, 1956. By March, 1956, the architect was at work, and in August the contract was awarded. B&M forces did not participate in the construction of the building.

The building was specifically designed for two-stop handling of four-car trains. This requires a structure 720 feet long. There are sufficient fueling nozzles for the fueling of a six-car train. The arrangement is such that, at the first stop, sand, fuel and service water are supplied to the cars. At the second stop, the daily ICC inspection is performed while lubricating oil, transmission oil, and treated engine water are available from properly spaced hose reels.

First Things First

Designs for the building were developed, according to the architect, on the premise that "railroads maintain rolling stock and not real estate." Uncertainty of steel deliveries at the time of the design did much toward shaping the decision to use concrete. The building has a reinforced concrete frame and concrete paneling founded on timber piling with pre-cast, pre-stressed roof beams and pre-cast roof slabs. Roof beams are 44 inches deep and are reinforced with ultra-high-strength steel reinforcing rods. To avoid concrete spalling in the Boston climate, the building has been painted with an acryllic-base paint which the architect estimates will last ten years.

The 720-foot overall length of the new shop was pretty well decided by the congested area in which it had to be built. It is placed between an embankment carrying the New Hampshire division main line and the east side of the Charlestown engine house. The 3,500 feet of new trackwork is complicated and involves some No. 6 and No. 8 turnouts and 21-degree curves. The congested area made it difficult for the prime contractor to sub-contract much of the construction work.

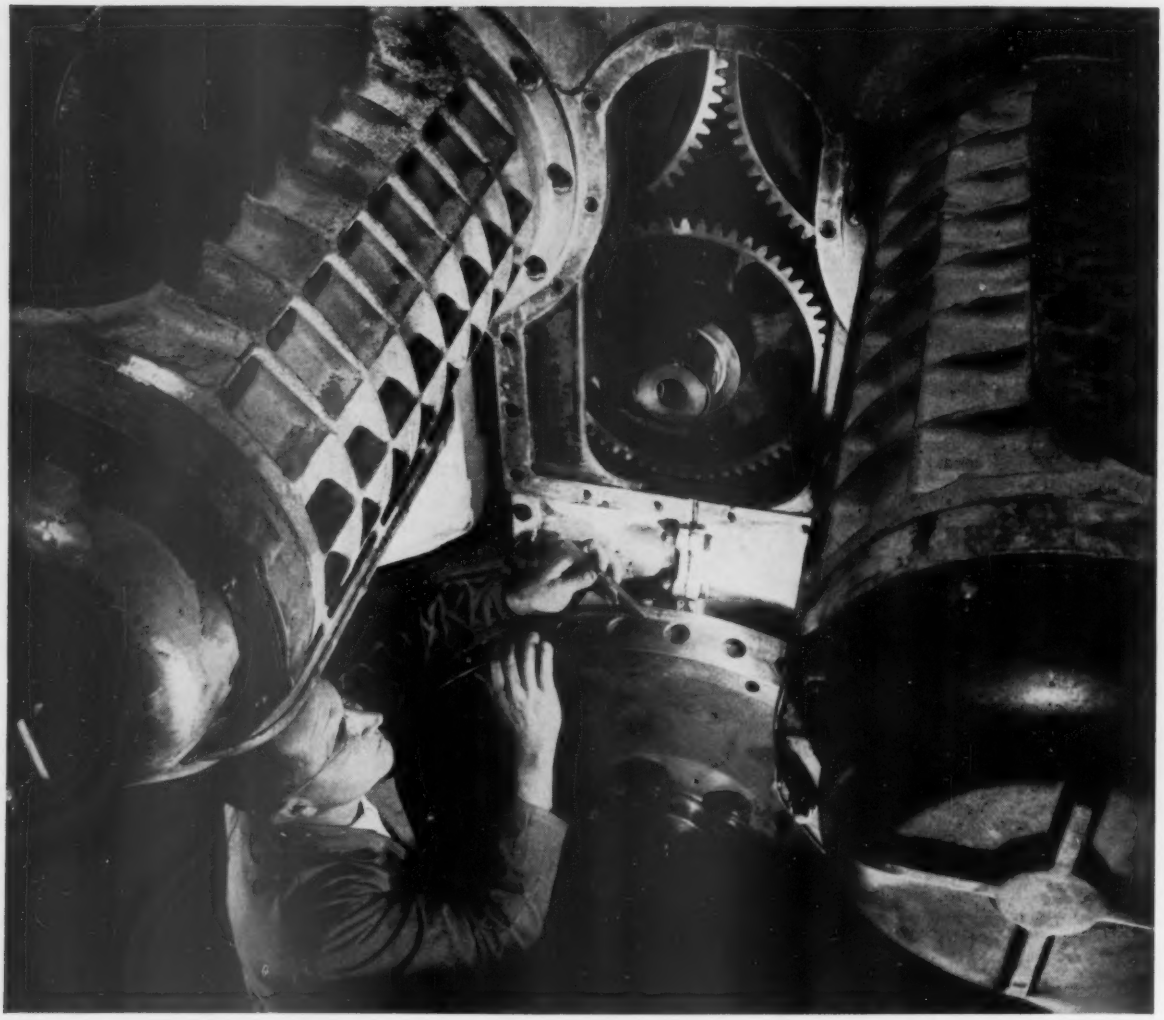
The mechanical department asked that the areas along shop walls be clear so that there would be no interference there with work on the cars. This was solved by placing the building columns outside the curtain walls. This not only provided smooth interior walls, but, according to the architect, is less complicated than the conventional "wrap around" type of construction. Another problem was that of adequate drainage. Car bodies and trucks can be washed down with hot water from any of seven hose reels spaced along the length of the shop floor. This water then goes into 10 by 12-inch drainage trenches located on each side of each track. There is a utility trench down the center of the shop which carries the fuel oil lines. Water, air and other oil lines are mounted on the side walls.

Heating is provided with over 3 miles of radiant coils, along with an overhead, hot-air ventilating system. The 12 ventilating units and four heating units on the shop roof are arranged to furnish clean, heated air at the same rate that air fouled with engine exhaust is discharged. Light is provided by nearly one-half mile of ceil-

ENGINEER'S FIELD REPORT

PRODUCT RPM DELO OIL RR

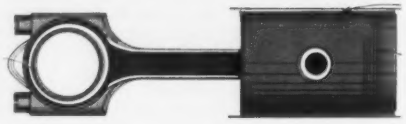
FIRM NORTHERN PACIFIC RAILWAY
South Tacoma, Wash.



RR diesel gears show only ½° wear in 2½ million miles

Timing gears on this Northern Pacific GMC–diesel locomotive engine, lubricated with RPM DELO Oil RR, recently completed 2½ million miles of severe freight service without repairs or adjustment. NP's South Tacoma Shop Foreman, A. R. Genin (above), indicates degree marks on engine flywheel, used to gauge gear wear. Tolerance between gear teeth shows variance of just ½° from original setting. Mr. Genin says, "We consider this low rate of wear remarkable for heavy-duty freight operation. It is typical of our experience during the 12 years we have used RPM DELO Oil in all our locomotive diesels." Engines are 1350 h.p. 16–567 series.

Why RPM DELO Oil RR reduces wear, corrosion



• Oil stays on engine parts—hot or cold, running or idle • Anti-oxidant resists lacquer formation • Detergent keeps parts clean • Special compounds prevent corrosion of bearing metals • Inhibitor resists foaming.

For More Information about RPM DELO Oils or other petroleum products of any kind, or the name and address of your nearest distributor, write or call any of the companies listed below.

LUBRICATING OILS RPM DELO

TRADEMARK "RPM DELO" AND DESIGN REG. U. S. PAT. OFF

STANDARD OIL COMPANY OF CALIFORNIA, San Francisco 20

THE CALIFORNIA OIL COMPANY, Perth Amboy, New Jersey

STANDARD OIL COMPANY OF TEXAS, El Paso

THE CALIFORNIA COMPANY, Denver 1, Colorado

SERVICING TECHNIQUES

TOP: Good lighting and drainage, uncluttered side walls, convenient outlets for all materials speed RDC visits to this building.

ABOVE: New sand drying and storage equipment, rebuilt car washer, all were part of the project.

LEFT: Sanding can be done at any point in the shop. Sanding assemblies are on monorails along each side of each track.

ing- and wall-mounted fluorescent fixtures.

Natural lighting is supplied through corrugated translucent panels running the length of the building just under the eaves.

Fire protection for this structure includes a complete wet sprinkler system, five hose reel water outlets, and ten chemical extinguishers. It was necessary to bring electric power underground from a point over 2,000 feet away, and to construct a 300-foot pipe bridge to carry steam, air and hot water from the locomotive terminal power house. The car washer was moved from one of the abandoned coach yards, and was rebuilt for the new location.

A complete new sand system has been installed. It delivers sand to a 10-ton overhead storage tank on the roof of the new Budd building. It is then fed to monorail-mounted, moveable sand hopper and delivery units on each side of each track in the shop. These units can be moved the entire length of the building, and make it unnecessary to "spot" trains for sanding. Instead, the sand is delivered directly to each sand box.

Trains move into the building for the fueling stop. They then move to the other end of the building for the inspection stop. They then go out the end, reverse their direction and move back over an outside track through the car washer. At the present time this facility is handling 137 cars per day. These are made up in 50 trains. Peak load is the period just after the morning rush hours, when from 9 to 11 a.m., 50 cars come through the shop. A first trick force of 20 men handles 26 trains of 72 cars inbound and dispatches 23 trains of 70 cars.

When the B&M originally studied Budd RDC cars and authorized the expenditures for the bulk of its fleet, the estimate was that repair costs would be 20 cents per car mile. Actual repair costs for the fleet in 1957 were 14 cents per car mile. Continued study of every phase of the operation, and provision of necessary facilities, have been big factors in keeping such costs down. This new RDC servicing building is one more example of a B&M expenditure which is already justifying itself.

NEXT WEEK

The industry is

Trapped!

Railway Age spotlights make-work practices that cost the railroads traffic and RR workers their jobs.

"Say . . . those guys don't let any grass grow under their feet . . . weeds or brush either!"

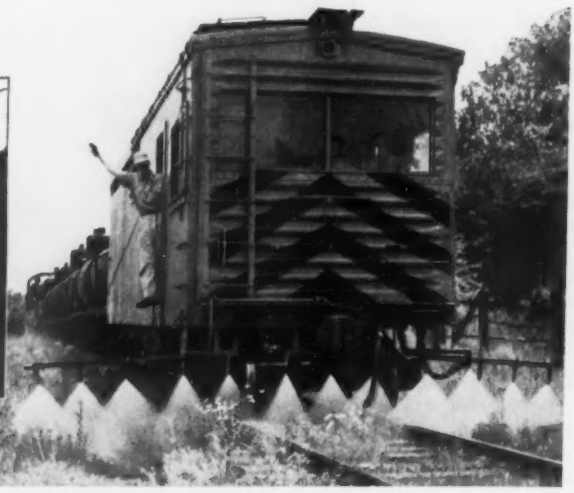
Chipman chemicals and application service are backed by over 45 years of railroad weed control experience. A broad line of weed, grass and brush killers is available. Each chemical or chemical combination is formulated for specific vegetation problems.

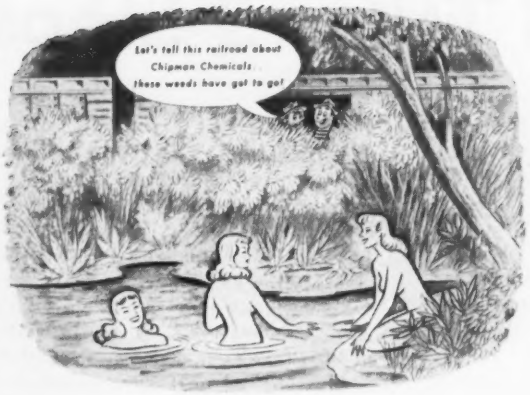
We can solve *your* weed problems with the *right* chemicals and application service. Check with us today!

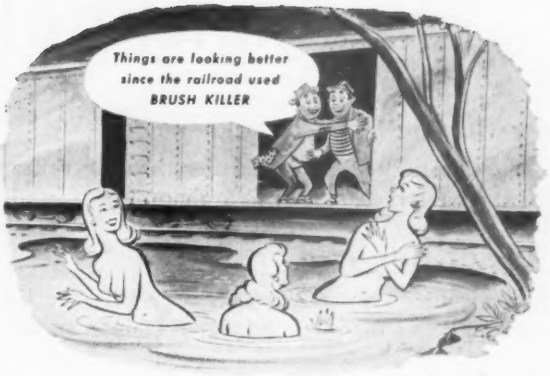
Most widely used are these trade-name products:

ATLACIDE • ATLAS "A" • CHLOREA
CHLORAX • METHOXONE-CHLORAX
TCA-CHLORAX • METHOXONE-CHLOREA
CHIPMAN BRUSH KILLER

17 Strategically Located Chipman Plants

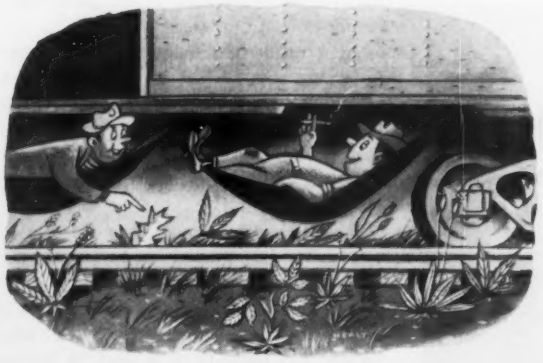






"There's no weeds or brush to hide in . . . they've killed 'em with Chipman chemicals!"

"Chipman weed killers do such a good job, I decided to use some on our estate!"



"These weeds tickle . . . next time let's ride a railroad that uses Chipman weed killers!"

"Mighty nice view since they used Chipman brush killers!"

CHIPMAN CHEMICAL COMPANY, INC.

Bound Brook, New Jersey • *Pioneer of Railway Weed Control*

The Clinchfield Takes 3 Steps

1 Practically Completed

Rehabilitation with treated hardwood ties, heavier rail and fastenings, heat-treated rail on curves, more rail anchors.

2 Shaping Up

Work force reorganization: special gangs for jobs like tie renewals and surfacing, mobile crews for B&B and signal maintenance.

3 Well Under Way

Mechanization of the whole M/W force with latest equipment, and providing radio and other modern communications.

There's been a transformation in maintenance of way operations on the Clinchfield in the last decade. It was touched off by an important decision by the road's lessors in 1949: fixed properties and maintenance forces were to be modernized for greater economy.

Starting in 1950, it was the new chief engineer's responsibility to put the directive into effect. He undertook three steps: First, rehabilitate the properties; Second, reorganize maintenance of way forces; Third, mechanize them. Step one has been practically completed. Two and three are slated for this year.

The Clinchfield's rehabilitation is reflected in variations that have taken place in its M/W ratio. Check the extremely low ratios in the accompanying chart for the 1943-1948 period.

It's apparent now that these low ratios were the result of under-maintenance. The depression of the 1930s, with its lack of funds, and World War II, with its manpower shortages, had taken their toll.

Not until 1949 did the M/W ratio approach the Class I average. Then, for four years, reflecting the cost of a catching-up rehabilitation program, it surpassed the average. For 1957, however, with economies already achieved, the ratio was about 12.0 —again below the Class I average. The full effect of the reorganization and mechanization program should keep the ratio below average this year.

The Clinchfield's 276 miles of main line twists, dips, climbs and winds through five states in the rugged Great Smokey and Blue Ridge mountains. There are also 15 miles of branch lines and 173 miles of yard and side track.

To build strength into its track structure, the road adopted 132-pound RE rail section as standard in 1951. This rail was first laid in the heaviest traffic territory and has progressed toward the lightest. At the end of 1957, the road had 236 track miles of 132-pound and 40 miles of 112- and 115-pound rail in its main tracks.

"We will lay only about five miles of new 132-pound rail each year from 1958 to 1964," the chief engineer explained, "at which time we will have removed all rail under 132-pounds from the main track. The released 112- and 115-pound rail will be laid in yard and industry tracks."

The Clinchfield uses ¼-inch tight gage. It has found through tests that this gives a longer rail service life. Also, close watch is kept on rail on curves. When the ball shows signs of flowing, the rail is transposed without regaging. On some 14-degree curves rail has been transposed three times.

Another means for increasing the service life of rail is the use of heat-treated rails on curves. In 1958, the road intends to procure 822 heat-treated 132-pound rails to replace open-hearth rails of the same weight on 14-degree curves. It also intends to adopt the use of heat-treated rails for all curves over 6 degrees. "If we can get 4 to 4½ times the service life from these rails," says an engineering officer, "it will be worth the premium."

The Clinchfield has also stepped up the renewal of ties. These are all vapor-dried, adzed, prebored and treated crossties, and are of oak, except for a few mixed hardwoods. The preboring of eight holes per tie is to get penetration of the preservative in the tie-plate areas.

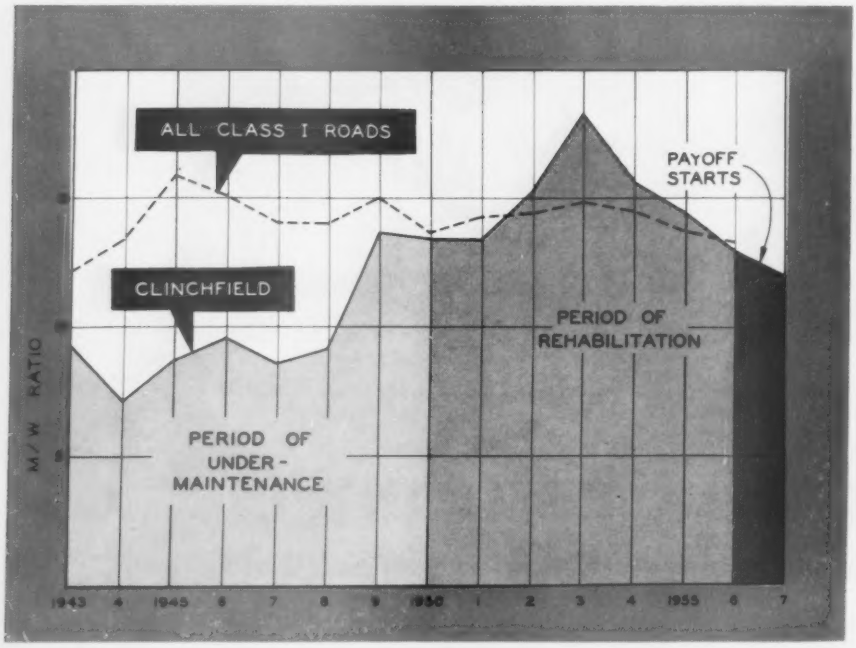
As a result of the intensive tie-renewal program, about 64% of the total ties in the track are treated hardwoods laid in the last eight years. Also, although tie renewals for the last three years were still higher than the national average, renewals are now down to 4.4%.

The Clinchfield now has 24 passing tracks, totaling 33.5 miles in length, with the switches power controlled by CTC.

Starting this year, the Clinchfield is reorganizing and mechanizing its track forces. Up until 1954, it had 36 sections with two extra gangs. In 1954, this was reduced to 26. The extra gangs were kept.

In 1958, the number of sections was further reduced to 9, varying from 12 to 43 main-track miles in length. Each section force will have a foreman, one or two apprentices and from 5 to 11 laborers.

Out-of-face timbering and surfacing is programmed on a five-year cycle basis. The work will be carried out by two mechanized gangs. Each gang will include a



to Lower M/W Costs

foreman, an assistant foreman, 4 apprentices, 12 track-machine operators, 9 laborers and an assistant equipment maintainer.

With reduced rail allotments, rail-laying will be done now by a gang about half the size of the former 43-man outfit. Special gangs will play key roles: a welding gang will build up battered rail ends and engine-driver burns, and keep up open-hearth switch points.

A 2-man gang will handle electric arc work.

With heavy rains a factor, a ditching outfit works year-round with two Bucyrus-Erie crawler-shovel-dragline combinations and four side-dump cars.

Bridge and building forces are also being reorganized and mechanized. They will consist of four foremen, a lead carpenter, four assistant foremen, 26 carpenters, 9 painters and 19 laborers. Only one building gang is required, with few wayside station buildings to maintain.

Most of the road's 81 bridges are of the permanent type; only nine are timber spans. They will be maintained by two mobile gangs with air and electric tools. A five-year paint cycle is to be set up for a single paint gang.

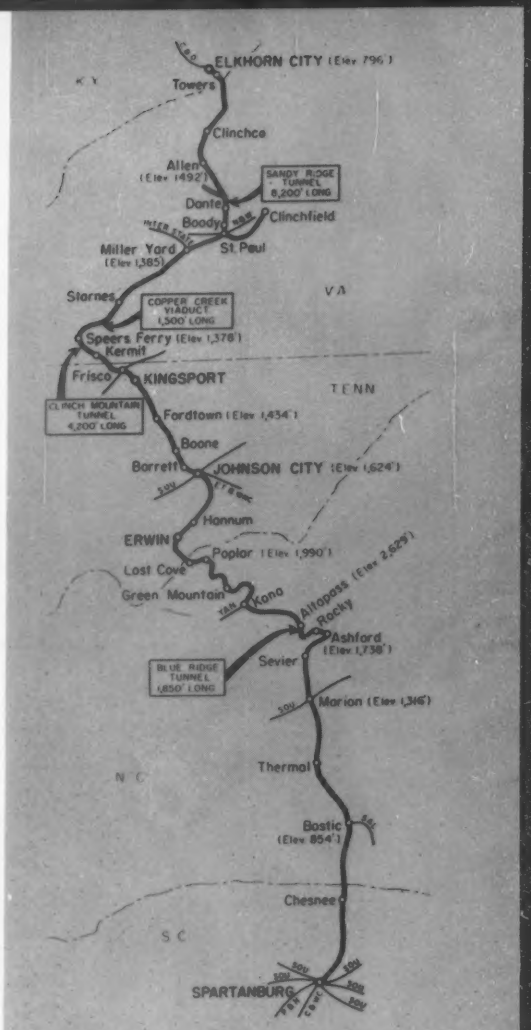
Changes also affect the signal, communications and electrical forces. At three of seven maintainer headquarters, there will be a lead maintainer to care for radio, Teletype, and carrier systems. There will also be a mobile signal gang for new construction and heavy signal repairs.

Since the Clinchfield became fully dieselized in 1954, the road has changed from telephone and telegraph communication to carrier-telephone, radio, Teletype and PBX communications systems. Every engine and caboose is equipped with radio, and the road has nine wayside base stations. Also, it has 12 Teletype units at 10 locations.

Two-way radios have been installed on many track machines and each track gang has two heavy-duty pack sets to pass train information. Track gangs also are equipped with portable telephones.

As put into effect at the start of 1958, the reorganization and mechanization will effect substantial savings. But it will be up to the supervisory personnel to make it work. So the road made changes in this staff. As now constituted, this group includes a roadmaster, three track supervisors, three assistants, three signal-communications-electrical supervisors, a supervisor of welding and work equipment, and a b&b supervisor and assistant.

"This reorganization was made only after making many trips to other roads to observe their forces and equipment," the chief engineer explained, "Also, the machines we selected, after observing their performance under actual field conditions, are those which we think will best suit our needs."



HARD TO MAINTAIN, Clinchfield's 276 miles include 110 of curved track ranging to 14 degrees. Mountains are a problem, too, with many steep grades.

What It Takes for Real Track Force Mechanization

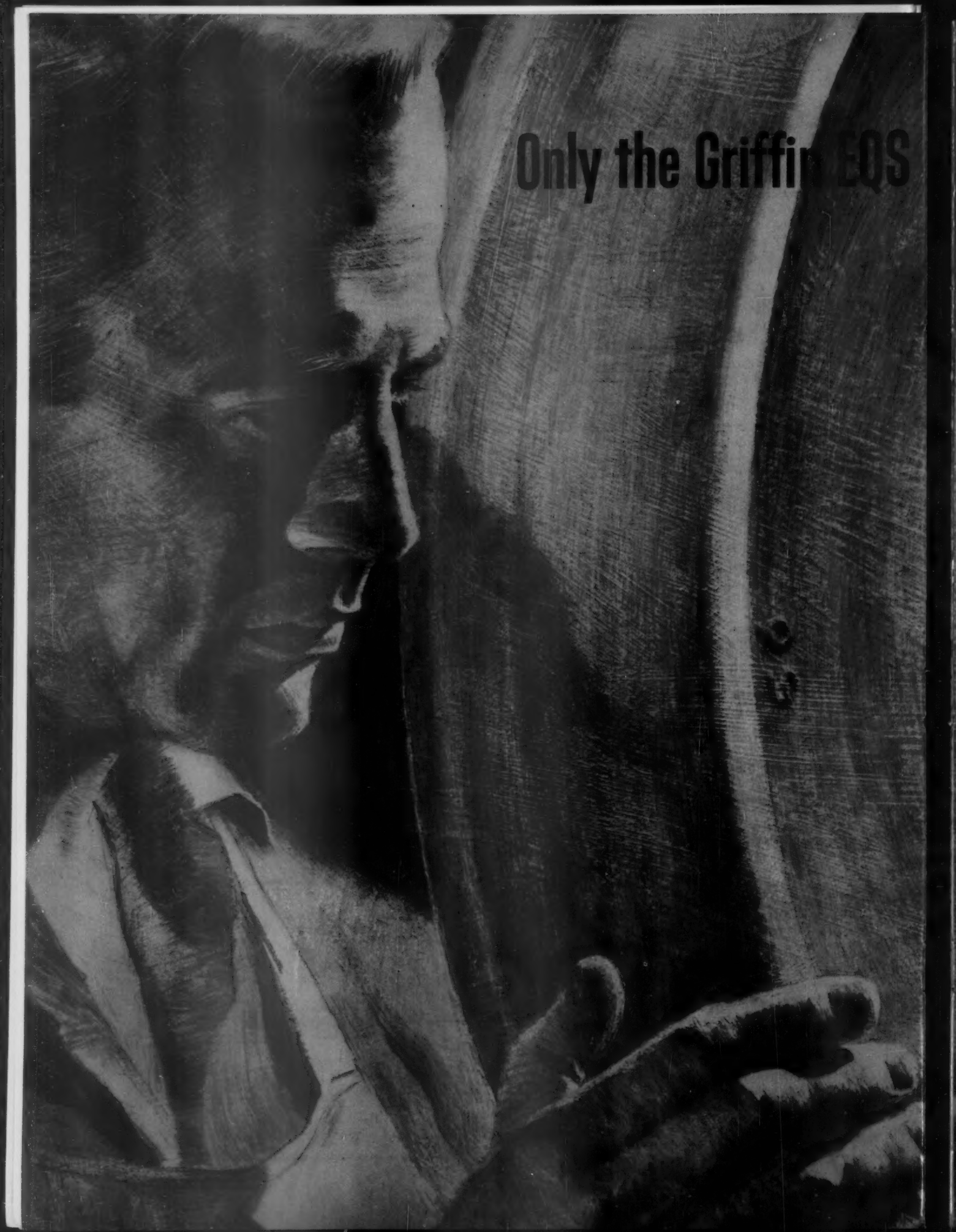
Each tie-and-surfacing gang:
- 1 Raco bolt machine
- 1 Fairmont spike puller
- 2 Nordberg Gandys
- 1 RMC SpikeMaster
- 1 Nordberg dual tie drill
- 1 Nordberg or other tamping jack
- 1 Plasser or Matisa production tamper
- 1 Track-lining machine
- 1 Ballast Regulator with plow and broom
- 1 Fairmont A-3 motor car
- 1 Truck

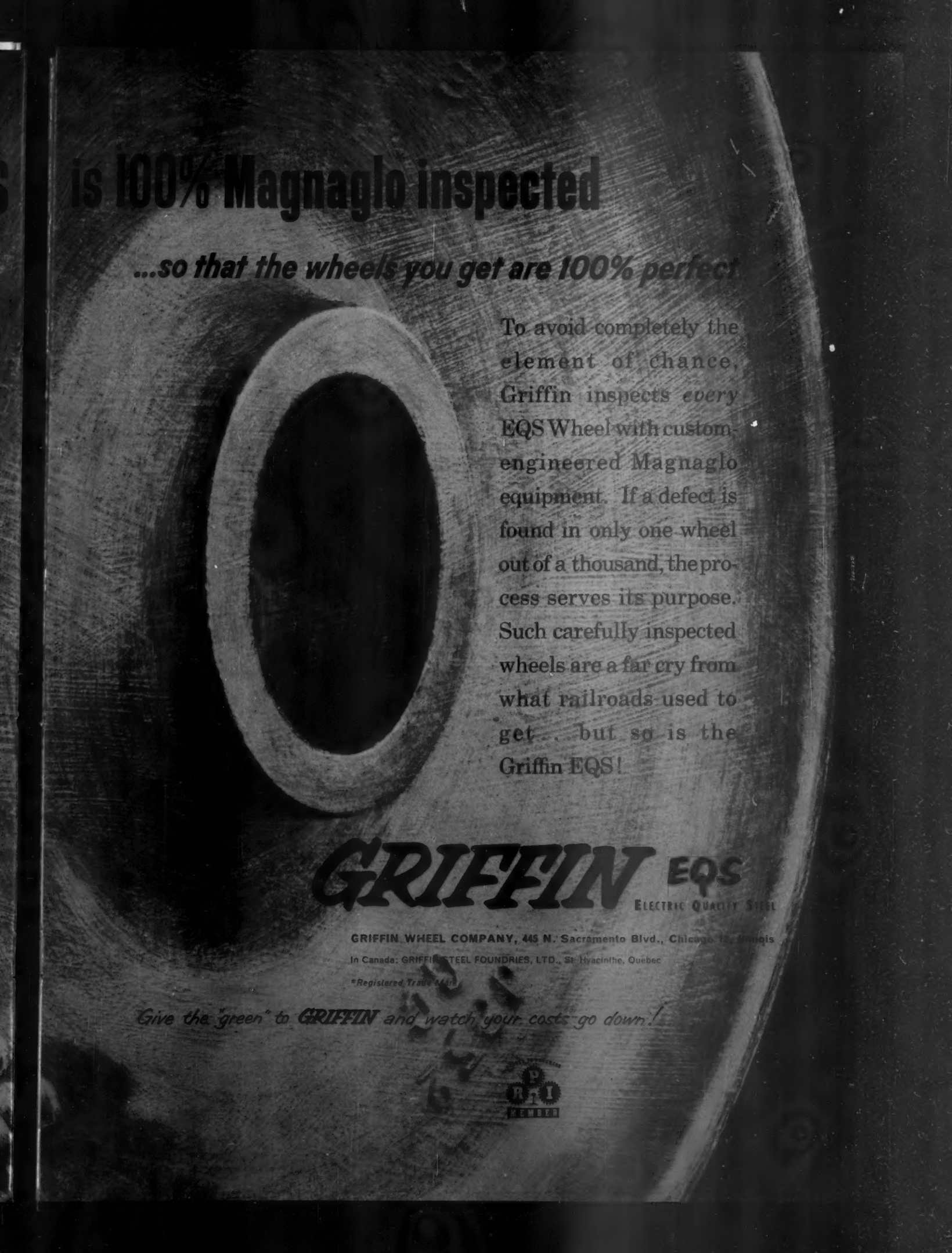
Rail-laying gang:
- 1 Fairmont spike puller
- 2 Raco bolt machines
- 1 Kershaw Kribber
- 1 Fairmont tie brush
- 1 Nordberg adzing machine
- 1 Fairmont creosote sprayer
- 1 Nordberg tie-plate gager with Bronco
- 1 Burro crane
- 1 Nordberg dual tie drill
- 4 Nordberg spike drivers
- 1 A-3 motor car
- 1 Truck

Each section gang:
- 1 1½-ton truck, either stake or dump
- 1 Fairmont A-3 motor car with 2-way radio
- 1 Fairmont M-19 for switch, lubricator maintenance
- 1 Nordberg spike hammer
- 1 Fairmont hydraulic spike puller
- 2 Raco bolt machines
- 1 Raco stock-rail grinder

Each supervisor's territory:
- 1 Open-bed Fairmont Hy-Rail Car
- 1 Fairmont M-19 motor car
- 1 Fairmont trailer to haul machines
- 1 Fairmont derrick car to unload frogs

At system headquarters:
- 1 Model 15A Burro crane
- 1 Model 30 Burro crane
- 1 Model 40 Burro crane
- 1 50-foot boom for Model 40 crane
- 1 45-inch magnet
- 1 Caterpillar D6 bulldozer


Only the Griffi EQS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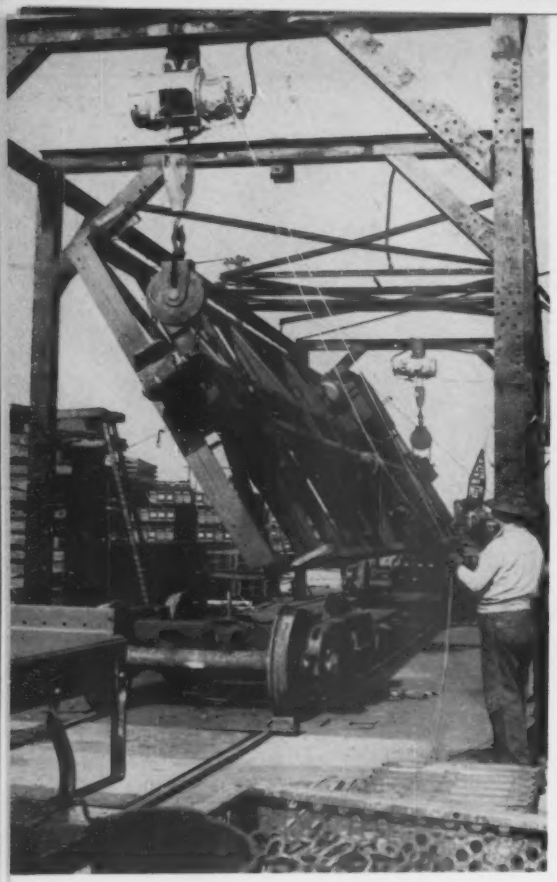


FROM START

Frame for a new PFE mechanical refrigerator car is flopped over onto its trucks at Los Angeles shop.

TO FINISH

PFE's car department superintendent, E. P. Wright, looks over a completed 50-footer prior to light-weighing.

PFE Cars to Work East or West

A thousand dual-range mechanical refrigerator cars are opening new avenues of service and economy for Pacific Fruit Express. The first cars are rolling off the company's Los Angeles assembly line for service this month.

PFE's K. V. Plummer, vice-president and general manager, looks forward to these advantages:

- They can handle either frozen foods or perishable products requiring medium temperatures;
- They will have doors wide enough to permit loading regular freight for return trips westbound.

PFE plans to place four cars in service daily. The $20 million carbuilding project will be completed next February. Under construction are 500 40-foot cars and 500 50-footers.

Dual-range temperature control has been made possible by modifying the method by which cooled air is circulated within the car. In PFE's present mechanical reefers, the cooling system surrounds the lading with a blanket of cold air. In the new ones, cold air from the evaporator is directed into the car body through ceiling diffusers. It's returned through an air channel under the floor racks.

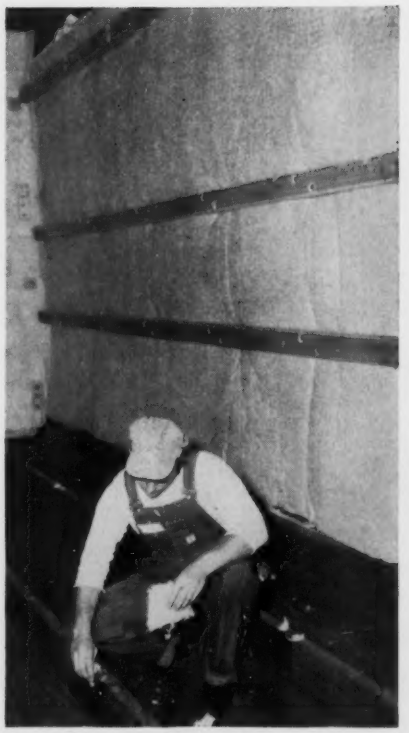
Temperatures in the new cars can be maintained between 32 and 70 degrees for perishables, or between zero and 10 below for frozen foods. Humidity is controlled, too. Lights at the end of the car under the running board indicate whether the equipment is operating properly and at the correct temperature.

Six-foot-wide doors and metal floor racks will permit loading palletized freight into the cars with lift trucks. Floors are metal laid on wood stringers.

The 50-foot cars are cooled by a single-compressor refrigeration system using a 34-horsepower diesel and a 15-kilowatt generator. The 40-footers have 18-horsepower engines and 12½-kilowatt generators. Both carry 500 gallons of fuel.

Insulation in the 50-foot cars is 7 inches thick on floors and walls, 10½ inches thick on the ceiling. The 40-foot cars have 6 inches of insulation in floors and walls and 8 inches in ceilings.

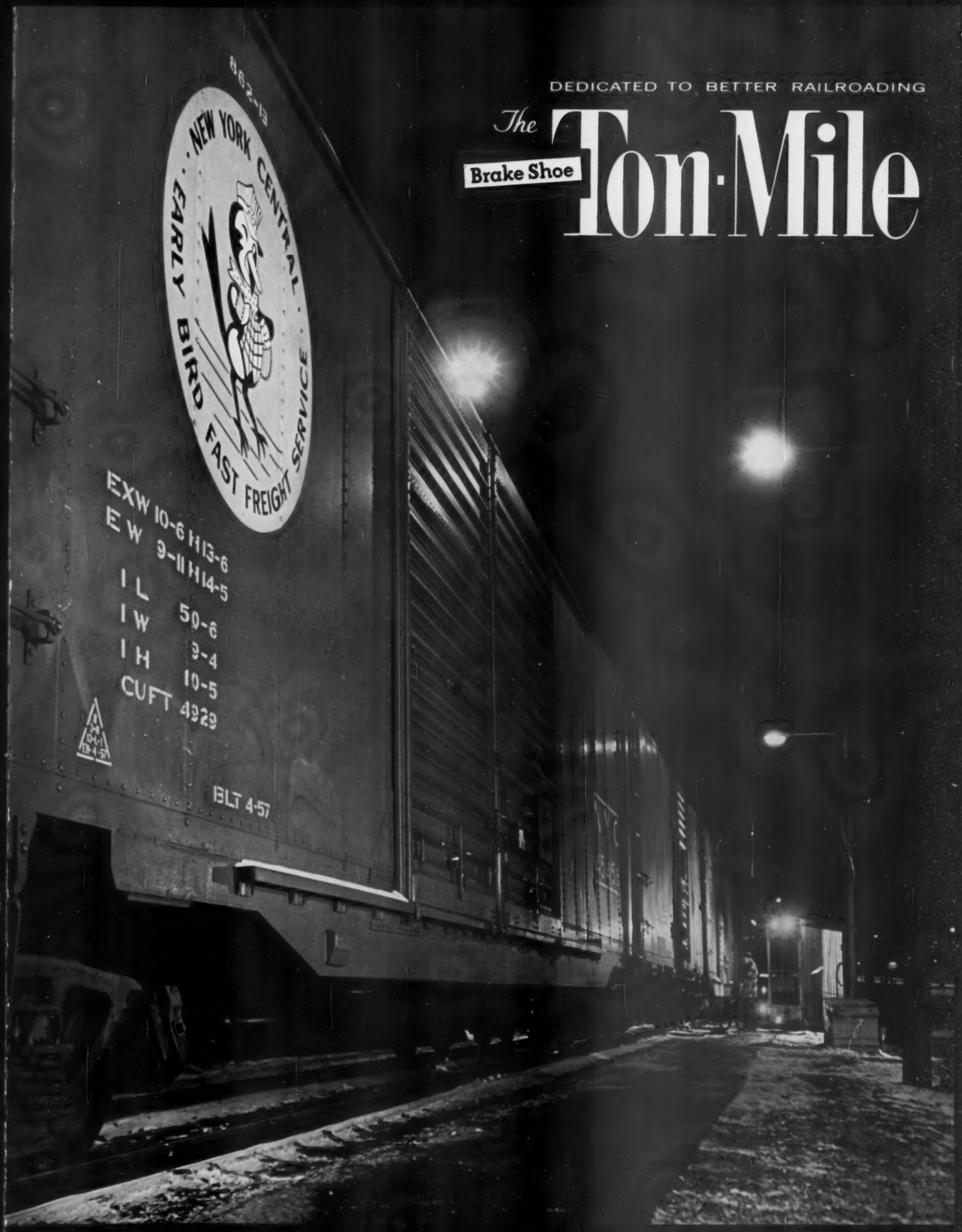
Previously, PFE's mechanical cars have been built only for transportation of frozen foods. The 1,000 new cars will help solve a major problem for the Southern Pacific-Union Pacific line: Now, most of its reefers return west empty because they're not readily adaptable to mechanized loading of regular freight. The new cars mean revenue on homeward moves.



HEAVY INSULATION is a feature of new cars. Metal floor will rest on wooden stringers.

DEDICATED TO BETTER RAILROADING

The Brake Shoe Ton-Mile



By night, by day, America's crack freight trains, such as the NYCRR's "Early Birds," are moving the tonnage faster, farther, and more dependably than ever.

Cooling the Hot Box

Changes in the journal box are pointing the way to a solution to the hot box. Here are the trends . . .

Early in 1955, a freight car with gay, straw-yellow journal box lids moved slowly past an oiler on a hump. "Well, ain't that pretty," he mused cynically.

What the oiler didn't know was that he was looking at a genuine straw-in-the-wind—although the symbolic yellow might have told him that. Changes were about to be made in the traditional journal box assembly. It had done a good job over the years, nevertheless its efficiency was about to be stepped up to meet the changing pace of freight traffic.

A long look at an old friend

Most railroaders recognize that basically the solid bearing meets the needs of freight service. Unlike the roller bearing, which rigidly supports its load on a series of small-area, high-pressure points, the solid bearing has a broad, sturdy surface that floats easily on a tough film of oil.

The result is a bearing that can safely carry great loads under extremes of temperature, despite heavy impact and abuse. Its large bearing surface is flexible enough to compensate for the irregularities of as-cast truck components. At low temperatures especially, it offers less resistance to acceleration than any other type of bearing.

Yet, like any other mechanical device, it is not perfect. In the last few years, train speeds and lengths have increased tremendously, contributing to what is probably the greatest cause of bearing trouble: lubrication failure through waste grabs. At the same time railroad labor costs have gone up, making inspection and repairs more costly and delays more serious. Scientists began to take a long look at the familiar journal box and its lubricating system. As a result of their investigations many changes are now being made. Some of these are:

Lubricating pads. Perhaps the most important change to date, lubricating pads, such as American Brake Shoe's Redipak® Twin, are now making themselves felt. One railroad has reported that lubricator-equipped journal boxes performed nearly three times better, over-all, than waste-packed journal boxes. In the important summer months the results were especially good—as much as nine times better performance.

The lubricator eliminates waste packing, which is likely to shift under impact during braking or coupling. Waste that has been disturbed during car jacking or has received too much oil or been penetrated by moisture is also very unstable. Once the packing shifts, waste grabs and a bearing break-down may follow.

The Redipak consists of a specially formulated neoprene core encased in a woven cotton cover with retaining ears to hold it firmly in place in the journal box. The woven cotton cover wicks a generous flow of oil to the surface of the journal. The core provides the proper resiliency and also acts as a large reservoir of oil for an emergency. The foamed neoprene is specially formulated to Brake Shoe's physical specifications to resist taking a set under extremes of temperature.

Controlled clearance bearings. Pioneered by Brake Shoe's compound bore journal bearing, the controlled clearance bearing has been recently adopted by the AAR. This design reduces the large tolerances that previously existed between bearing and journal. This precision fit means better lubrication, because of the larger load bearing fluid film area. Moreover, there is less opportunity for waste to get under the bearing and destroy the lubricating film.

Flat back bearings and wedges. To restrict movement of the bearing and the axle in the journal box, the flat back bearing was designed by American Brake Shoe. The top of the bearing is flattened the full width of the wedge and its sides are extended. Unlike the traditional "steeple back" design, which tends to lift and roll with rapid acceleration or deceleration, the flat back bearing is held firmly centered on the axle, and axle movement relative to the journal box is effectively limited. As a result, the opportunity for waste grabs is reduced. In addition there is less likelihood of damaged journals, bearing surfaces, and dust guards.

Reduced lateral movement. It has been proposed to return to prewar bearings that were ¼" longer, in order to reduce the excessive lateral motion of the axle, which can be damaging to bearings, seals, and even side frames and bolsters.

Better sealing. Improved dust guards, such as the Brake Shoe Cushion-Fit Dust Guard now on test, will more effectively seal the opening around the back of the journal box and keep dust out and oil in. Better sealing is now considered a must for efficient journal operation.

Axle stops. A number of devices are now available that can be added to the journal box to restrict fore and aft movement of the axle under impact. Most of these are bronze stops with machined finishes. They are in effect, extensions of the bearing surface. By restricting fore and aft movement they add to the life of bearings and journals, reduce the possibility of waste grabs, and help protect the dust guard from damage.

A look at the future

These are the more important improvements recently designed to make a more efficient bearing system of the standard journal box. Some, especially the lubricating pad and

the dust guard, are proving highly effective and are justifying the validity of the solid bearing for freight service. It looks as though the railroads will continue to upgrade the journal box with some or all of these devices.

Another answer for the future is an improved solid bearing that embodies all the benefits listed above. *And that is precisely what the National Cartridge Bearing offers!*

The National Cartridge Bearing is a complete, sealed bearing and lubricating system. It is what all the present modifications of the journal box are tending toward! It combines the advantages of the solid bearing—ruggedness and economy—with the advantages of a sealed-in, low-maintenance unit. Yet at the same time it costs far less to install than the roller bearing.

Resistance to impact. The 270° bearing with its flat back successfully withstands the shocks of acceleration and deceleration. The axle journal is stabilized to its related truck parts. Lateral movement is positively controlled within the proper limits to promote easy riding and effective sealing.

Positive lubrication. The National Cartridge Bearing has a self-contained reservoir for oil and uses the proven principles of Redipak lubrication. It is cool-running and trouble-free.

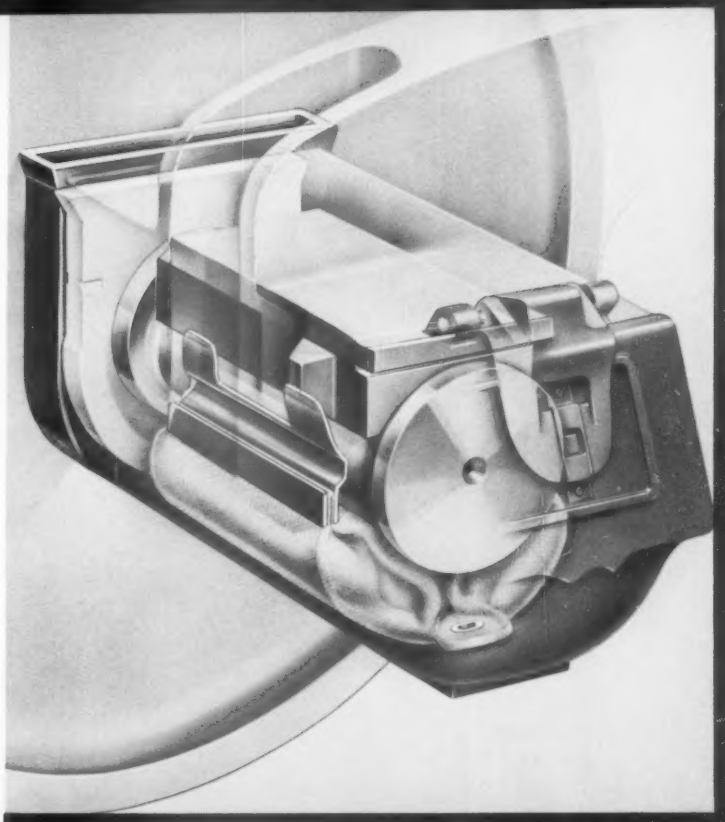
Effectively sealed. The Cartridge Bearing completely encloses the journal. The seal cannot ride off the dust guard seat. The seal unit is readily replaceable and consists of a steel encased positive Buna S seal, backed up with a felt wiping seal to exclude dirt. A free-opening vent prevents build up of internal pressure. No oil can escape through the vent, even during car dumping.

Simple installation. National Cartridge Bearings can be installed with present facilities. They require no new or additional tools. To fit the unit to the axle it is necessary only to machine off the present collar and drill and tap the axle end. The cartridge is held in place by a removable collar, which is secured by three cap screws with adequate locking. The unit will fit in the standard journal box, after the dust guard well and waste retaining ribs, if any, have been removed. A simple adapter is used interchangeably with either box type or narrow jaw pedestal side frames. A wide jaw pedestal side frame uses a similar adapter of slightly different dimensions.

Reduce hot box losses and inspection costs! Laboratory and road tests indicate that the National Cartridge Bearing will practically eliminate the hot box problem. Since tests now indicate that the bearing will go for several thousand miles without needing an oil check, train schedules will be effectively speeded up, and inspection costs reduced. Internal inspection can be made at wheel turning.

A practical step. Here then is the goal toward which the modifications now being made on the journal box are actually heading. The value of these modifications is fairly well proven. That they should be most effective when wrapped up in a single, integral package is logical. Road tests are now confirming that logic. The National Cartridge Bearing is now a reality and approximately 3,000 units are being tested under a wide variety of conditions.

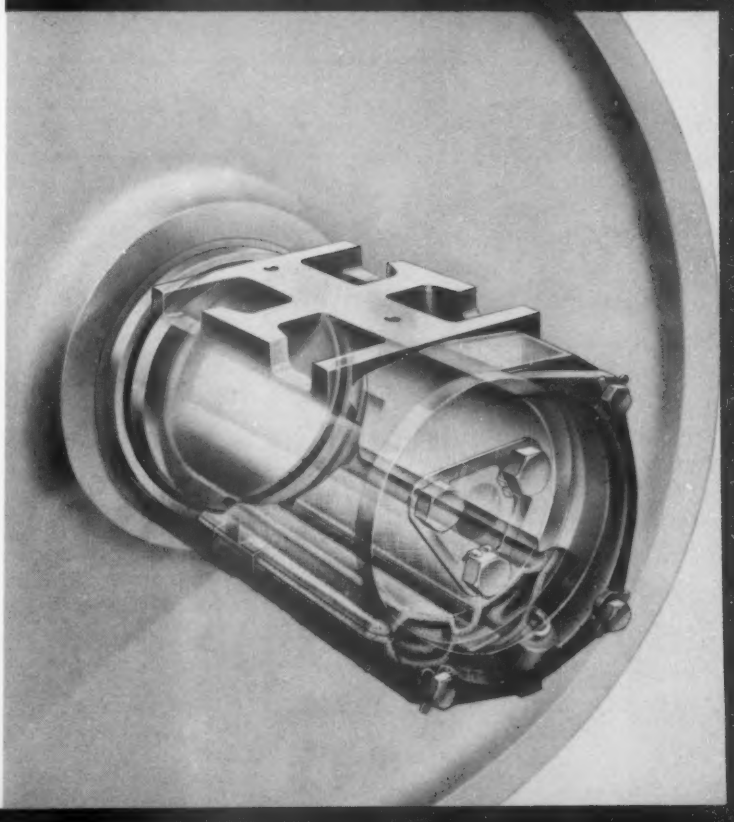
When the results are in, the National Cartridge Bearing may well be the bearing of the future—at a cost the railroads can well afford: a practical cost for a practical step.

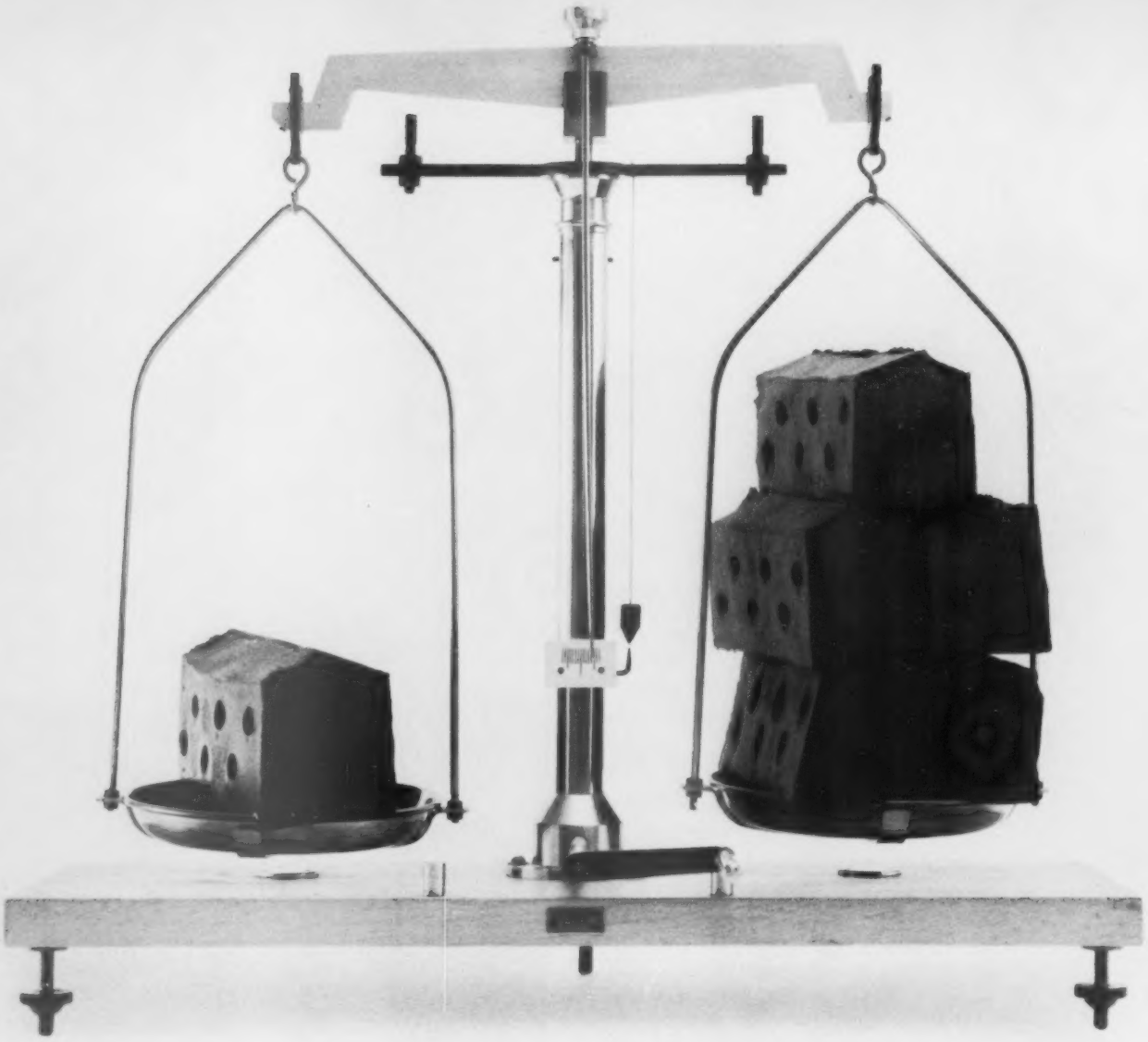


Improvements in the journal box assembly include lubricating pads (Redipak Twin shown), improved sealing with new dust guards (Brake Shoe Cushion Fit Dust Guard shown), controlled clearance bearing, flat back bearing and wedge, journal stops. All these developments are showing good results in improving bearing performance. And what's more they are definitely pointing the way to . . .

. . . The National Cartridge Bearing, which sums them all up! Embodying all the improvements now being made to the journal box assembly, the National Cartridge Bearing may well be the freight car bearing of the future.

Here is what the present modifications to the journal box assembly are tending toward: a complete sealed-in bearing and lubricating system with thorough control of impact. Yet it will cost far less than roller bearings! Here is a practical answer to the hot box problem!





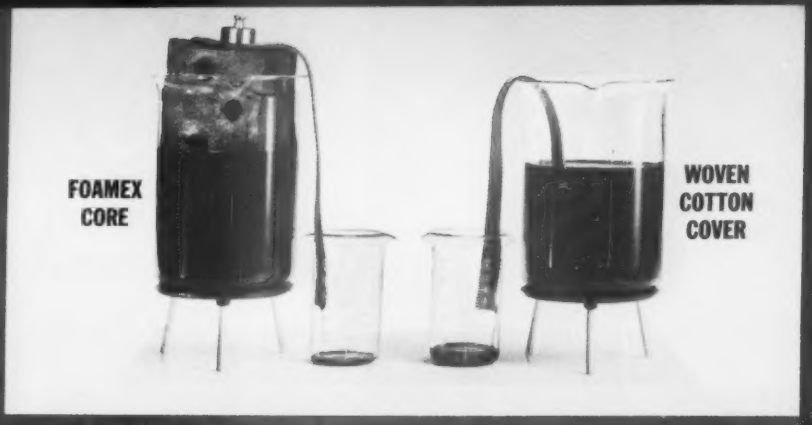
oil-soaked core

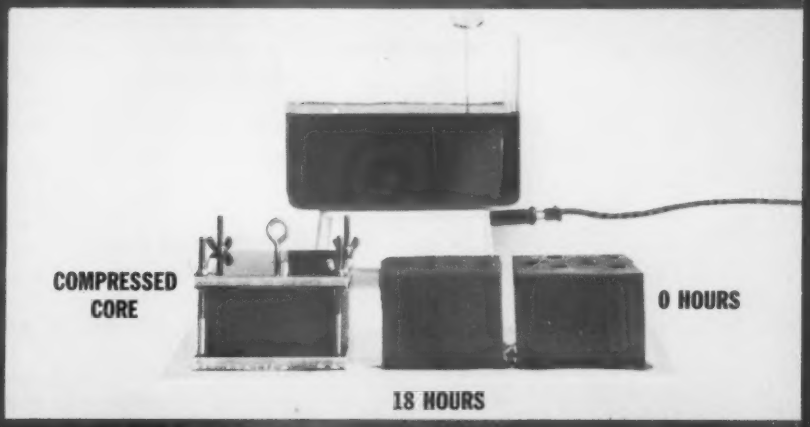
dry cores

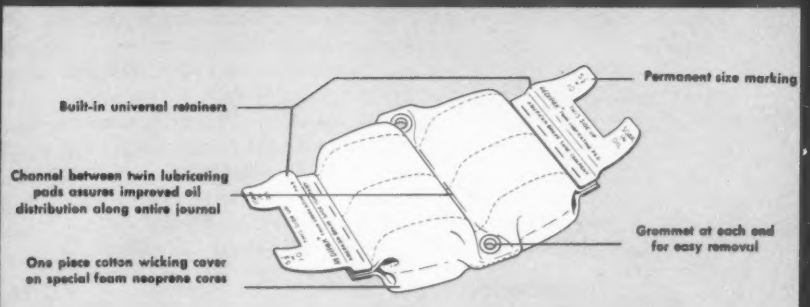
Why Redipak Twin Pads with Firestone* FOAMEX® provide superior lubrication

Redipak's Foamex core holds over 5 times its weight in oil!

Redipak Twin lubricating pads hold an amazing amount of oil. Why? Mainly because of the Foamex core with its millions of interconnected cells. One sample of oil-soaked Foamex weighs as much as five and one-half dry samples of the same size . . . in other words, five times its own weight in oil! Thus, the Redipak Twin core provides a generous oil reservoir—even when there is accidental loss of free oil.






Built-in universal retainers
Channel between twin lubricating pads assures improved oil distribution along entire journal
One piece cotton wicking cover on special foam neoprene cores
Permanent size marking
Grommet at each end for easy removal

Superior lubrication that will effectively control hot boxes is assured with Redipak® Twin lubricating pads, because of their unique design and the excellent lubricating properties of their woven cotton covers and Firestone Foamex cores.

Take the Foamex core . . . more than just a mechanical filler, this material, which is produced by Firestone to our physical specifications, actually wicks oil when saturated, holds over five times its own weight in oil, and keeps its shape and resiliency under extremes of temperature.

The wicking ability of cotton hardly needs explaining. When woven into a seamless cover for Redipak Twin pads, the result is a highly efficient wicking material that will not lint or glaze. Add to these properties, a unique design that provides superior oil distribution and positive shift prevention, and you have Redipak Twin lubricating pads.

A special formulation of Foamex is used for Redipak Twin pads

Brake Shoe

RAILROAD PRODUCTS DIVISION
530 Fifth Avenue • New York 36, New York
In Canada: Canadian Bronze Co., Ltd.

Hold Line and Gage . . . Increase Tie Life

with Racor® studs and tie pads

Last year the American Class I railroads placed about 22 million wooden cross ties in track at an average cost of about $3.50 apiece. This is by any standard a large investment.

Add the labor costs of inserting new ties, the expense of regaging untold miles of track, and the price paid for wear and tear on ties will be staggering . . . a price that demands that the railroads protect this investment more fully.

But how?

Fight that lateral motion

The most promising means yet developed are the Racor stud and the Racor tie pad. These devices originated in American Brake Shoe Company laboratories, where they were tested on a tie life test bed capable of duplicating, for example, fifteen years of tie wear in 210 hours.

The Racor stud works on an entirely new concept in anchoring devices. It fights the *lateral* motion, the scrubbing back and forth of the tie plate, which the ordinary cut spike inadequately opposes, simply because when used as an anchor or line spike, the cut spike is a loose fit in the tie plate hole.

Racor studs are equipped with rings near the head that are bigger than the hole in the tie plate. When the studs are driven, the rings wedge and deform in the plate hole, making the studs, in effect, integral members with the plate. Fitting snugly in prebored holes, the Racor studs then resist thrust throughout their entire length. Result: the tie plate is effectively restrained from its abrasive scrubbing to the drumbeat of traffic.

Preboring also adds to the life of the tie by eliminating the destructive effects of cut spikes. Racor studs can be pulled with an ordinary claw bar or mechanical puller, and redriven.

Exhaustive tests have shown that the Racor stud actually reduces plate cutting 50% or more over the conventional cut spike. Its gage holding power is twice that of the cut spike!

Tie pads soften the blow

One committee of roadmasters has stated that "The continually increasing cost of ties . . . has placed the tie pad in the front of the race to find something that will reduce mechanical wear under the tie plate, a major destroyer of sound, healthy ties." In addition to cushioning the blows of side thrust, the tie pad acts as a seal to prevent moisture and abrasive dust from deteriorating the tie.

Extensive testing of the Racor tie pad has shown that it more than fits these requirements. Made of a patented rubber fiber compound, it has the optimum thickness to take the punishment of pounding rails; yet it is thin enough not to disturb gage or surface. It is the ideal way to add to the usefulness of the Racor stud on bridges, severe curves, station platforms, insulated joints, highway crossings and other critical areas.

Road tests verifying laboratory results

Gage holding with the Racor stud. One western road installed Racor studs on a 10°-12′ curve that previously required regaging every 18 months. After 40 months of service with Racor studs the gage was measured and found to be within 3/16″ of its "as-laid" condition.

Progress reports from the AAR test at London, Ky., on the L&N Railroad have clearly shown that the gage is better in the sections where Racor studs are installed. Those sections where Racor studs and tie pads are used in combination are also showing superior gage holding.

Longer life for the tie

The causes of tie removal vary with the species of wood and the service location. A recent AREA Bulletin showed that, among the ties inspected by the committee, plate cutting caused the removal of approximately 25% of the pine ties, 12.7% of the oak ties and 21.4% of the mixed hardwoods. Spike killing caused about 9.1% of all the tie removals.

One railroad, after a survey of 400,000 ties removed from track, found that 33% were removed for plate cutting, 24% for splitting, 29% for shatter, and the balance for decay, spike killing, breakage, ring separation and accident. Since the average age of the ties removed for plate cutting was only 22.1 years, this railroad concentrated its efforts on extending tie life through the use of Racor studs.

They found that the Racor stud not only speeded rail relaying but it also enabled the railroad to take full advantage of the reduced maintenance inherent in welded rail by holding line and gage better than cut spikes.

In a test on a Southwestern road, 25% of a 1° curve in heavy sand territory was equipped with Racor studs, the balance with line spikes only. After five years of service, tie penetration was measured. The results showed that in average wear the Racor studs reduced plate cutting 79% and average maximum wear, 75%. The indication here is that in heavy sand territory, where average tie life is now 12 to 15 years, tie life can be at least doubled through the use of Racor studs.

The facts of tie life

A product designed to extend tie life should naturally pay for itself in the process. To see when this is possible with Racor studs and pads the following simplification is useful.

Assume the average tie to cost approximately $6.00 installed. Then if a tie lasts 10 years it costs $.60 a year; if it lasts 20 years, it costs $.30 a year and so forth. Using these figures it is easy to find how much extra life should be given the tie by Racor studs or pads to pay for their installation.

The results are startling. For example, where Racor studs are used instead of anchor spikes: if previous experience indicated a tie life of ten years in a particular location, only 45 days of additional life are needed to pay for the studs. If the tie life had been 20 years, only 90 days of additional life are needed!

Frequently it has been possible for a railroad to use Racor studs in place of anchor spikes at less cost through savings in labor, material and freight. In addition there are the savings possible through reducing the costs of regaging.

Another example. Consider a location where anchor spikes

were not used and ties were being removed, because of plate cutting, after fifteen years. The Racor studs need to add only one year of life to the tie to pay for themselves while providing the location with the benefits of better line and gage.

The above figures, of course, apply to locations where plate cutting is the major factor in tie removal. In other areas experience indicates that about one out of three ties is removed for plate cutting and related defects. Thus for general service it is necessary to multiply by three the above years of "added life needed"... which is still well within the capacity of the studs to pay for themselves.

Where to use Racor Studs

The first and most obvious need for Racor studs is in locations where the road already anchor spikes. The simple fact is that Racor studs will reduce plate cutting by 50% or more over cut spikes.

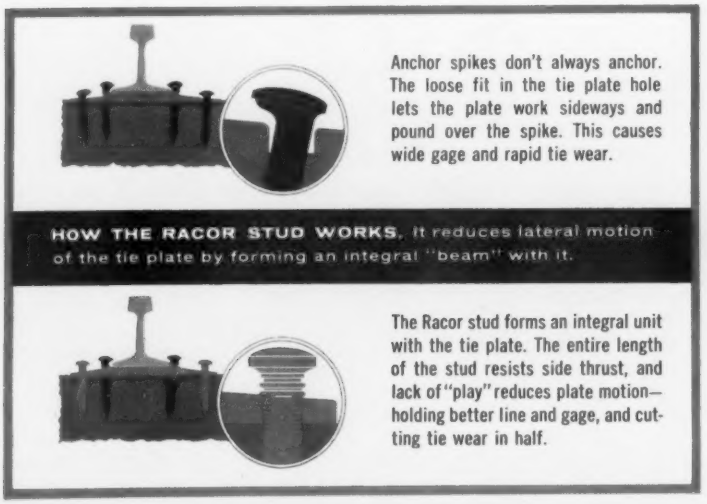
Many railroads have realized initial savings by substituting Racor studs for cut spikes . . . and at the same time speeded rail relaying by eliminating wooden plugs and hand gaging.

Every fourth or fifth tie is predrilled with a gaging machine, the plates are positioned and secured with studs, and the rail is laid. The remaining ties are drilled and studded after the rail is spiked.

In general, American Brake Shoe recommends the use of Racor studs out-of-face on every mainline tie. Where tie life is especially short or tie costs especially high, consideration should be given to Racor studs and tie pads used together. This combination gives maximum protection.

As labor and tie costs increase, as trains grow heavier and longer, as shippers demand faster, more timely operations, the need for extending the life of the railroad tie and maintaining gage becomes greater. Here are two simple, effective means of protecting the railroad's investment in its vast and valuable network of track: the Racor stud and the Racor tie pad.

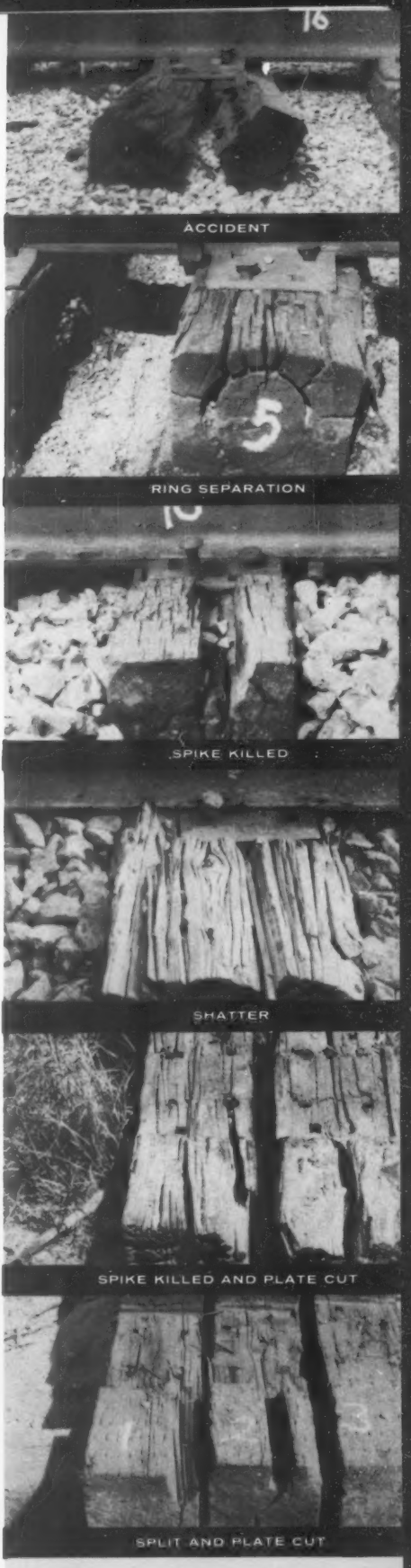
You can count on them.



Anchor spikes don't always anchor. The loose fit in the tie plate hole lets the plate work sideways and pound over the spike. This causes wide gage and rapid tie wear.

HOW THE RACOR STUD WORKS. It reduces lateral motion of the tie plate by forming an integral "beam" with it.

The Racor stud forms an integral unit with the tie plate. The entire length of the stud resists side thrust, and lack of "play" reduces plate motion—holding better line and gage, and cutting tie wear in half.



Why ties fail. Most ties are removed for one or a combination of these causes, in addition to decay. Racor studs and tie pads greatly reduce plate cutting and spike killing, which account for removal of about one out of three ties.

NEW YORK CENTRAL
EARLY BIRD FAST FREIGHT SERVICE
EXW 10-6 H 13-6
EW 9-11 H 14-5
IL 50-6
IW 9-4
IH 10-5
CUFT 4929
BILT 5-57

Here Come the "Early Birds"

Riding on Southern® Cast Steel Wheels

Fast freight service demands high performance

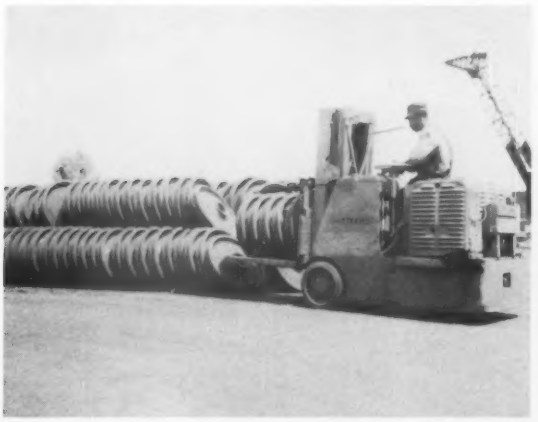
NYCRR's "Early Birds" are typical of America's new rapid freights, slashing hours off old schedules to New York and Buffalo from the Middle West.

Chances are, that new car rolling by marked with the blazing yellow "Early Bird" insignia is riding on Southern cast steel wheels.

Naturally, fast freight service demands that cars keep on the move and off the rip track. For this reason, not only are Southern cast steel wheels under the trucks (over 31,000 have been supplied to NYCRR's new car building program) but also other American Brake Shoe products are used: Redipak® Twin lubricating pads, National bearings, Lockeys, and Diamond S® brake shoes.

Night and day the "Early Birds" are on the move. To maintain this rapid pace "Early Birds" spend little time in terminals. Naturally this demands the best from freight cars. And Southern cast steel wheels and other Brake Shoe products meet this demand!

Another secret of this rapid service is preclassification in modern yards, such as the NYCRR's efficient Blue Island yard, outside of Chicago, equipped with Racor® trackwork.

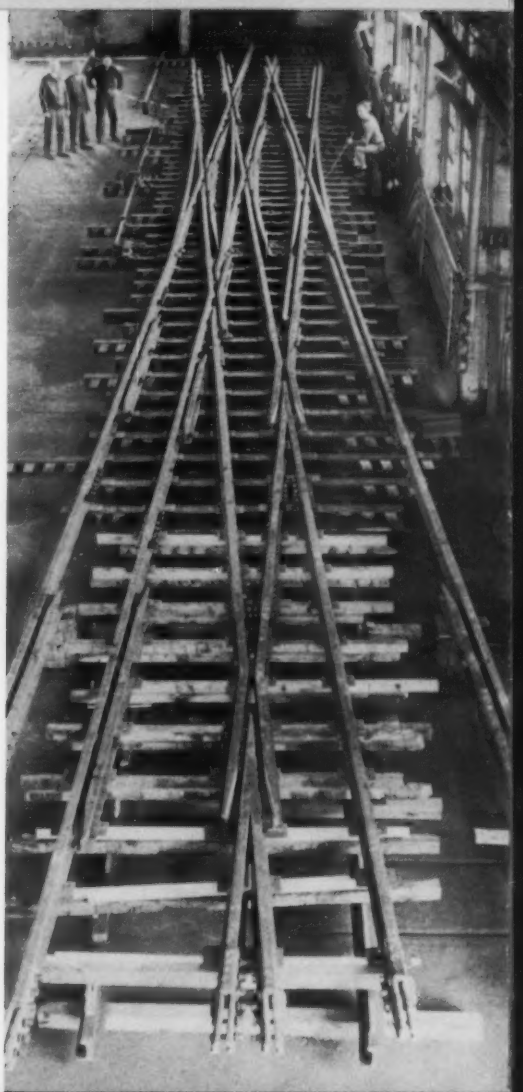


Here come the Southern Wheels! These cast steel wheels being handled at a NYCRR car shop are destined for new "Early Bird" cars, part of the NYCRR's recent car building program.

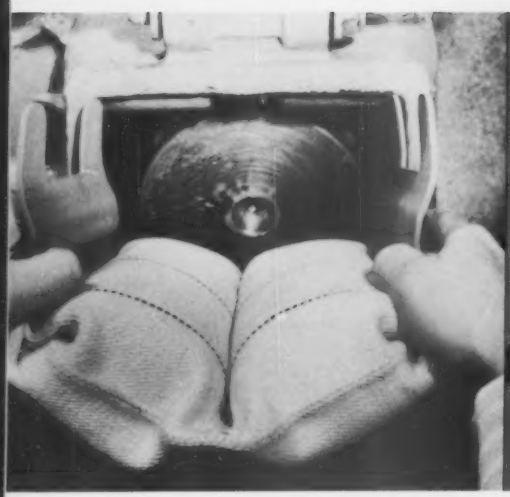
Brake Shoe

RAILROAD PRODUCTS DIVISION
530 Fifth Avenue • New York 36, N. Y.

Talk about standardization—
Some countries have to contend with two or more gages! Here is a double gage, double slip and rigid crossing made in an American Brake Shoe plant for a South American order. While Brake Shoe doesn't recommend such complexities as a practice, it goes on record that it can make them better than anybody else.

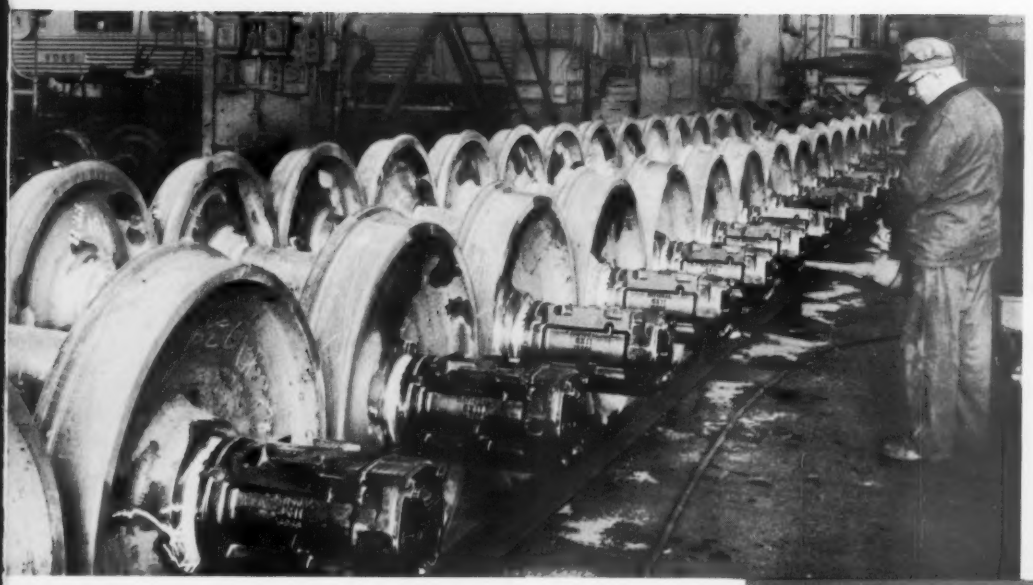


Spotlight on the NEWS



More Redipaks for Canada
are now possible through an arrangement between American Brake Shoe and Canadian Bronze Co., Ltd. for the latter to manufacture and distribute Redipak Twin lubricating pads in Canada.

More new freight cars for the Seaboard—
getting a last minute check before leaving the Pullman-Standard Car Manufacturing Co. shops in Bessemer, Alabama, these spanking new hopper cars are equipped with Redipak® Twin lubricating pads, Southern® cast steel wheels, Lockeys, and Diamond S® Brake Shoes.



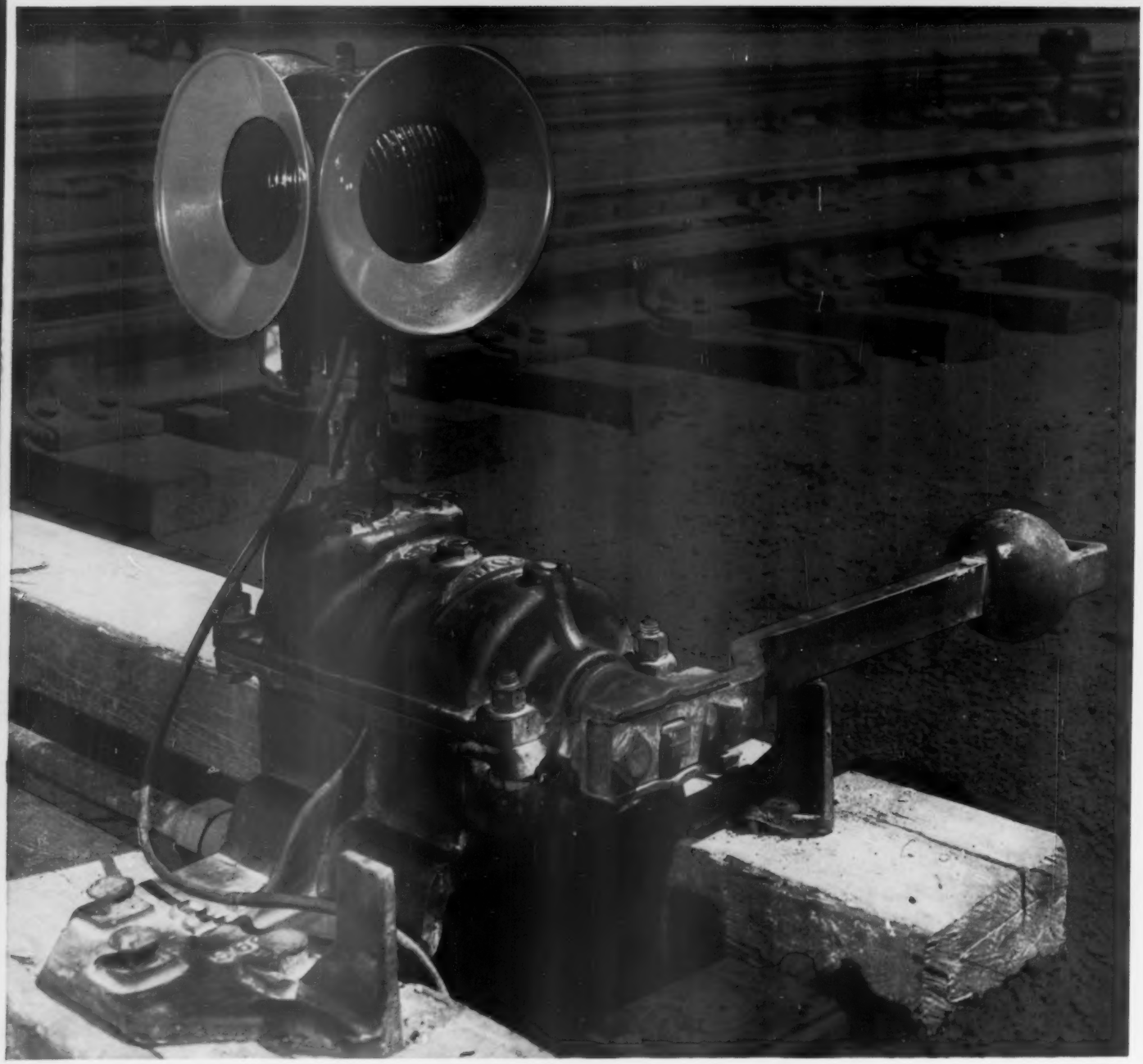
C&O steps up testing of National Cartridge Bearing with an order of 400 units recently prepared at their Huntington shops for application to cars at their Russell, Ky., car shops. Over twenty railroads are testing this complete sealed-in bearing unit.

American Brake Shoe's Exhibit, booths 37 through 41, at the National Railway Appliances Association Exhibition at the Coliseum in Chicago, during the AREA convention, March 10-13, 1958.

Flanged wheels let compressor keep pace with Racor® DD4—One railroad recently put flanged wheels on its Tractair* compressor, in addition to its rubber-tired wheels, to allow it to travel on track with the rail gang. A screw jack attached to the axle assembly allows a change from road to track in about four minutes. The idea started when engineers noticed that the Tractairs bounced along the ties as they kept pace with two Racor Dual Drivers, which are among the most rapid spike drivers in use.

** Tractair is the registered trademark for Le Roi's combination tractor—air compressor.*

Brake Shoe **TON-MILE**



Speed Yard Operations at Less Cost with Racor® No. 22 Stand!

The word has been passed in a number of yards: ladders and other areas equipped with Racor No. 22 Switch Stands may be run through. Result: time and money saved by eliminating costly switcher stops and delays.

This husky switch stand will take any number of run-throughs and automatically complete the throw and the proper indication. The hand lever stays where it was.

Even in yards that will not permit switch trailing, the No. 22 stand will save money by eliminating the costs of accidentally damaged switches, rerailing, operating delays, locomotive repairs.

The Racor No. 22 Switch Stand makes switch point adjustment easy, too. Every stand is equipped with a heat treated, forged steel, adjustable crank eye that is actually stronger than rigid types. Accurate adjustments can be made without respiking stand.

If you are interested in speeding up your operations and saving money with this heavy-duty, automatic stand, let your Racor representative know.

AMERICAN Brake Shoe COMPANY

RAILROAD PRODUCTS DIVISION
530 Fifth Avenue · New York 36, N. Y.
In Canada: Dominion Brake Shoe Company, Ltd

THE CONTINUING OUTRAGE

SMOOTH SAILING. With the government picking up the tab for maintaining this inland waterway, why wouldn't barge operators prosper? Rail right of way on the far bank was built by and is kept in shape with private funds. Why does free enterprise mean one thing for railroads, something else for the barge operators and their brothers-in-subsidy, the airlines and truckers?

It's Time to End Discrimination

The most extensive inland navigation system in the world winds through this country. Its 22,600 miles are the gift of American taxpayers to one segment of our transportation system. The nation is equally bountiful in providing airways and highways for airlines and motor common carriers. Meanwhile, the railroads pay their own way.

The Federal Government takes responsibility for keeping the waterways navigable. About 8,300 miles of the total have been dredged to 9- and 12-foot depths to accommodate modern, deep draft barges. The government charges nothing and collects nothing for the waterways it provides. By the end of the current fiscal year, the total of federal funds spent on improving and operating the inland waterways will reach an estimated $2,500,000,000.

The federal airways system of integrated traffic control facilities and services is absolutely essential to air line operations. Without it, safe and dependable airline transportation would be completely impossible. Since 1925, $1,375,000,000 of federal funds have gone for building, maintaining and operating the federal airways system. The cost this year will be over $70,000,000 more than it was in 1957.

Part of the airway expenses go for military and private planes. But statistics indicate that at least half of the total expense is spent on air carrier use.

The airlines have claimed, from time to time, that the tax on aviation gas helps pay for the federal airways. In a sense it does, just as any government income does, but this tax was created as a general tax, not a user charge. What's more, it does not apply to jet fuel. In any case, the total receipts from the aviation gas tax amount to only $30,000,000 a year.

Latest roadbuilding entry is the federal government's 40,000 mile interstate and defense highway program. The estimated cost is $39,000,000,000 but initial segments of the system in some states are running almost double the estimates.

All motor vehicles make some payment for their use of highways, but in every stage of highway development, owners of private automobiles and other light vehicles have paid a higher share per ton-mile than heavy commercial vehicles have. Data from the Bureau of Public Roads show that under state motor vehicle user taxes in effect at the beginning of 1956, the average passenger car paid nearly three times as much per ton-mile as did the typical heavy commercial truck.

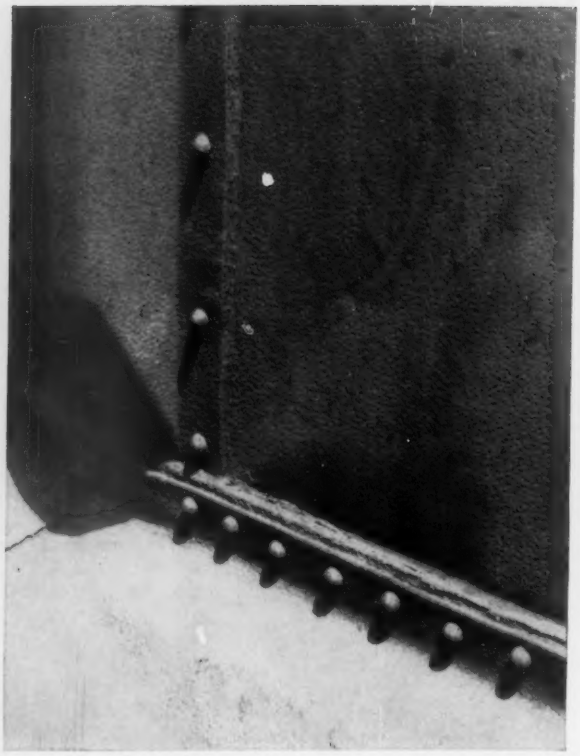
The 1956 highway act did apply a special tax to vehicles over 26,000 lb gross—but it won't balance things.

Trucks are now scheduled to pay only 39.2 per cent of the $39,000,000,000 estimated cost of the interstate highway program. What's more, the act transferred receipts from selected existing taxes from the general to the highway fund.

Railways build and maintain their own rights of way. They pay the interest costs on the capital investment. They pay property taxes on their rights of way. They put money into the federal government's general fund. They don't take money out.

Waterways, airways and highways are financed and built by the government. Waterways, airways and highways are maintained by the government. Interest costs on the capital investment for waterways, airways and highways are paid by the government. Waterways, airways and highways are tax free. They bring in no tax revenue to support the federal, state and local governments that build and maintain them.

A copper-bearing steel



A nickel-copper high strength low alloy steel

How Corrosion Research helps lower car maintenance costs

Examine these hopper car interiors. Both have seen ten years of similar service.

Look first at the picture on the left. This is a copper-bearing steel with a good measure of corrosion resistance. Yet notice the rust, the spalling.

Now look at the picture on the right. This is a nickel-copper high strength low alloy steel. All you see is a thin, tightly adherent oxidized surface . . . a surface that protects the base metal, slows the progress of corrosion. This car should provide at least 50% longer life for its owners before it must be repaired.

Inco Corrosion Research at Kure Beach, near Wilmington, N. C. Here, atmospheric corrosion data gathered over many years on thousands of specimens provides answers to one of industry's most urgent problems.

A product of corrosion research

Since 1925, nickel-copper steels have been under study by Inco. The goal: to find low cost alloy steels for car frames and plates with improved corrosion resistance and higher strength . . . and reduce the staggering repair bill caused the industry by corrosion each year.

As one family among a host of corrosion-resisting materials that are improving operating economy throughout industry, nickel-copper steels have done a good job. Cars keep rolling longer, need less shop work, and are lighter, permitting bigger payloads.

If you have a corrosion problem...

You owe it to yourself to talk with Inco's corrosion engineers. They have gathered data on hundreds of metals, alloys and coatings. It's data that was gathered to help you.

48 Pages of Help: compositions, fabricating and welding characteristics, corrosion resistance and mechanical properties of nickel-copper high strength low alloy steels are discussed in the Inco booklet *"Nickel-Copper High Strength Low Alloy Steels."* Please drop us a card for your copy.

The International Nickel Company, Inc.

67 Wall Street INCO New York 5, N. Y.

INCO NICKEL

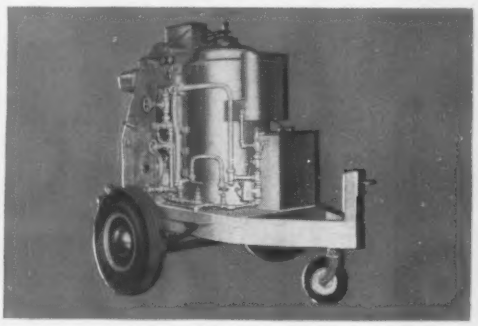
Cleaning Labor Costs Reduced 80%

30 cars a day (per man) back in top revenue service with fast VAPOR UPGRADER cleaning

UPGRADES FREIGHT CAR REVENUE

Never far from the door, one man can upgrade a car in about 15 minutes. High pressure hot water blasts dirt out of cracks and corners no brush could ever reach.

All traces of lime and cement washed away and no odor left. It took one man only 20 minutes to make this car acceptable for hauling grain. Even hide cars can be upgraded with Vapor Blast Washing.



On three wheels or four wheels, with skids or on a rigid base for truck or wheeled platform mounting, Upgraders can be moved easily. Wherever steam cleans, Upgrader saves money.

Freight cars go back into service sooner —and often higher-revenue service—after quick, inexpensive Water Blast Cleaning with a Vapor Upgrader Senior. For an average of less than a dollar per car, railroads achieve greater utilization of equipment, ease their freight car shortage.

Heart of the system is a Vapor high capacity, high recovery boiler. This supplies high pressure steam to a high pressure injector where the steam jet induces a water stream of 1500 gph at 180° F. and 250 psi. The hot, high pressure steam then is delivered at 175 fps for high velocity scouring.

Under this torrent of hot water, dirt and encrustations are literally blasted loose and flooded away, yet neoprene or other sealant finishes commonly used on car interiors are unaffected.

When detergents are used with the Upgrader, stubborn oil and grease can be so thoroughly washed out that floor boards need not be removed even if the car is to be used for hauling wheat or sugar.

A typical railroad's experience with Vapor Upgrader Blast Washing, compared with previous hand-scrub method.

	Scrub Brushes & Cold Water	Upgrader 180° F. Blast Washing
Hours required to clean one car	2.5 (3 cars per day per man)	.25 (30 cars per day man plus Upgrader)
Cost Per Car:		
Labor	$5.50	$0.55
Fuel	nil	0.332 or less
Water	0.023 or less	0.023 or less
Amortization & Maintenance	nil	0.075 or less
Total cost per car	$5.52 or more	$0.98 or less

Considering the cost of brushes, buckets, water and other incidentals of hand washing, it is evident that Upgrader Blast Washing saves about 85% of the cost of cleaning cars and does a faster . . . far better job.

Get exact, detailed information about Vapor Upgrader Senior—ask for Bulletin 596A.

VAPOR HEATING CORPORATION
80 EAST JACKSON BOULEVARD • CHICAGO 4, ILLINOIS

Offices in Principal Cities

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1957

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1957	Total (inc. misc.) 1956	Operating Expenses: Maint. Way and Structures: Total 1957	Total 1956	Deprec. and Retirements	Total 1957	Maint. Equipment: Total 1956	Deprec. and Retirements	Traffic	Transportation	Total 1957	Total 1956	Operating ratio 1957	Operating ratio 1956	Net from railway operation	Railway tax accruals	Net Railway operating income 1957	Net Railway operating income 1956
Akron, Canton & Youngstown	Dec.	171	$417	....	$426	$502	$67	$65	$6	$55	$72	$15	$42	$149	$359	$391	84.2	77.9	$67	$35	$11	$48
	12 mos.	171	6,313	.....	6,473	6,029	860	844	71	847	765	174	544	1,954	4,770	4,493	73.7	74.5	1,703	844	478	503
Atchison, Topeka & Santa Fe	Dec.	13,172	44,321	$3,540	54,874	50,572	7,552	8,044	1,026	10,275	10,242	2,273	1,427	19,506	41,272	40,583	75.2	80.3	13,602	7,505	5,310	4,981
	12 mos.	13,172	514,763	41,831	610,714	590,183	89,748	88,251	8,775	126,313	115,171	26,813	15,780	213,330	473,859	447,987	77.6	75.9	136,855	74,083	56,310	65,332
Atlanta & St. Andrews Bay	Dec.	81	291	.....	294	330	39	10	3	40	28	7	7	64	172	92	58.6	27.8	122	57	36	104
	12 mos.	81	4,465	.....	4,507	4,368	499	498	39	372	364	82	83	834	2,033	2,800	45.1	45.8	2,474	1,119	896	914
Atlanta & West Point	Dec.	93	223	29	321	341	37	59	6	51	61	14	18	155	281	306	87.6	89.8	40	18	—4	—2
	12 mos.	93	2,819	342	3,819	4,072	517	555	77	728	784	172	210	1,779	3,491	3,583	91.4	88.0	329	235	—44	23
Western of Alabama	Dec.	133	285	27	354	351	40	68	9	81	74	19	20	148	309	319	87.4	91.0	45	26	25	19
	12 mos.	133	3,315	311	4,065	4,204	606	614	106	804	856	225	233	1,698	3,586	3,609	88.2	85.8	470	396	275	346
Atlantic Coast Line	Dec.	5,292	10,611	1,746	13,920	14,539	1,834	1,904	277	2,565	2,444	675	459	5,549	11,182	11,403	80.3	78.4	2,738	1,890	521	734
	12 mos.	5,292	133,660	17,474	163,340	166,630	24,000	28,490	2,138	35,132	35,568	7,920	5,574	64,545	137,340	142,085	84.1	85.3	25,888	13,675	9,206	9,268
Charleston & Western Carolina	Dec.	343	567	.....	583	656	83	80	12	99	102	31	21	204	428	398	73.4	69.8	155	140	38	119
	12 mos.	343	6,977	.....	7,117	7,409	1,583	1,638	178	1,179	1,318	335	256	2,213	5,427	5,517	76.3	74.5	1,690	1,105	817	953
Baltimore & Ohio	Dec.	5,946	29,017	1,575	33,048	39,002	4,036	4,211	1,189	7,267	7,722	1,105	1,014	15,588	29,876	32,263	99.3	82.7	3,212	Cr.1,217	1,876	3,281
	12 mos.	6,000	414,094	18,645	461,301	465,485	53,294	51,655	6,057	87,254	95,978	13,090	12,549	195,498	373,261	375,141	80.9	80.6	88,042	28,693	37,917	43,459
Staten Island Rapid Transit	Dec.	29	204	65	274	259	56	46	25	38	33	2	2	164	307	267	112.2	102.9	—33	45	—110	—77
	12 mos.	29	2,486	762	3,308	3,071	706	602	163	433	360	21	20	1,828	3,454	3,051	104.4	99.4	—146	525	—1,038	—790
Bangor & Aroostook	Dec.	602	1,229	25	1,296	1,334	347	220	21	298	363	108	53	359	1,166	1,156	89.9	86.7	130	Cr. 70	242	308
	12 mos.	602	14,551	321	15,364	15,801	3,227	3,200	255	3,236	3,293	1,252	424	4,457	12,429	12,120	80.9	76.7	2,936	Cr. 1,281	2,961	3,617
Bessemer & Lake Erie	Dec.	208	1,155	.....	1,174	1,813	259	970	16	800	623	141	49	472	1,767	2,277	150.5	125.5	—593	Cr. 208	—167	—6
	12 mos.	208	28,139	4	28,977	26,203	2,860	3,813	244	8,194	8,914	1,669	463	6,249	19,525	20,075	67.4	76.6	9,452	7,710	6,647	5,569
Boston & Maine	Dec.	1,571	5,387	855	7,039	7,075	1,066	1,488	149	772	1,258	111	170	3,433	5,913	6,844	84.0	96.7	1,126	255	435	—642
	12 mos.	1,571	66,517	10,157	85,954	88,039	12,099	12,567	1,833	10,391	11,472	1,780	1,888	39,600	68,885	70,737	80.1	80.3	17,069	5,667	5,519	4,759
Canadian Pacific Lines in Maine	Dec.	234	527	38	594	630	100	114	18	110	99	17	10	225	456	515	76.7	81.7	138	60	—31	25
	12 mos.	234	6,020	615	6,971	7,116	1,395	1,393	187	1,220	1,406	208	111	2,644	5,586	5,944	80.1	83.5	1,385	401	262	168
Carolina & Northwestern	Dec.	284	191	.....	199	260	35	63	7	16	10	9	6	89	163	158	81.9	69.9	36	Cr. 18	4	52
	12 mos.	284	3,396	.....	3,471	3,839	661	732	84	215	207	109	50	964	2,049	2,079	59.0	54.2	1,423	269	555	796
Central of Georgia	Dec.	1,763	3,188	137	3,615	3,625	559	569	54	645	671	186	160	1,521	3,071	3,021	85.0	83.3	544	252	327	189
	12 mos.	1,763	39,358	1,749	44,212	44,785	6,590	6,999	594	7,555	7,438	2,027	2,058	17,657	36,078	35,984	81.6	80.3	8,134	3,093	4,907	4,885
Central of New Jersey	Dec.	612	3,668	536	4,721	5,390	553	737	161	826	919	182	78	2,356	4,054	4,423	85.9	82.1	667	600	—8	347
	12 mos.	612	49,202	6,348	59,833	62,454	6,927	8,483	1,181	10,541	10,870	2,160	937	27,002	48,202	49,414	80.6	79.1	11,630	5,960	3,383	4,551
Central Vermont	Dec.	383	897	54	1,018	1,069	161	149	15	122	95	10	22	446	801	694	78.6	64.9	218	46	24	230
	12 mos.	383	10,030	698	11,596	11,899	3,057	2,656	208	1,345	1,255	122	222	4,629	9,750	9,294	84.1	78.1	1,846	602	—478	684
Chesapeake & Ohio	Dec.	5,132	28,760	554	30,964	34,644	4,618	5,272	520	7,166	6,477	1,172	1,214	12,665	27,434	26,256	88.6	75.8	3,530	Cr.3,157	6,452	7,391
	12 mos.	5,132	401,308	7,113	432,330	418,728	52,755	49,333	5,367	72,812	69,898	20,876	10,178	144,561	299,904	284,497	69.4	67.9	132,426	58,333	78,155	77,572
Chicago & Eastern Illinois	Dec.	862	2,756	231	3,324	3,273	338	422	25	529	493	151	153	1,280	2,484	2,628	74.7	80.3	840	416	229	389
	12 mos.	862	32,650	2,555	38,274	37,631	4,752	4,574	359	6,447	6,228	1,739	1,651	14,855	30,036	29,146	78.5	77.5	8,238	2,318	3,580	4,653
Chicago & Illinois Midland	Dec.	121	607	.....	625	589	40	36	5	97	44	24	32	177	396	334	63.4	56.8	229	88	136	121
	12 mos.	121	7,815	.....	8,016	7,717	559	658	81	1,295	1,221	291	369	1,879	4,637	4,653	57.8	60.3	3,379	1,757	1,505	1,395
Chicago & North Western	Dec.	9,287	13,016	1,748	16,837	16,788	3,574	1,397	305	1,938	2,392	975	480	8,141	15,375	14,329	91.3	83.4	1,462	1,020	—788	1,018
	12 mos.	9,297	178,821	18,872	218,483	225,695	36,204	34,891	4,335	34,135	39,758	11,899	5,525	97,398	186,670	198,211	85.4	87.8	31,813	14,861	5,470	104
Chicago Burlington & Quincy	Dec.	8,758	17,712	1,901	22,474	21,679	3,315	2,696	966	3,822	3,504	978	571	8,862	17,600	14,409	78.3	66.5	4,875	2,191	1,966	2,880
	12 mos.	8,777	212,715	20,923	258,308	257,032	39,830	35,749	5,680	44,775	42,791	11,349	7,077	102,194	205,579	156,368	79.6	76.4	52,729	26,292	21,881	25,542
Chicago Great Western	Dec.	1,470	2,579	10	2,839	3,009	463	511	41	445	417	132	132	950	2,099	2,078	73.9	69.1	741	214	326	343
	12 mos.	1,470	34,585	174	36,820	35,627	5,658	5,442	494	5,601	5,629	1,568	1,512	11,365	25,139	24,371	68.3	68.4	11,681	4,469	4,526	4,399
Chic. Milw., St. Paul & Pacific	Dec.	10,590	16,764	1,330	20,721	20,341	2,583	2,856	468	3,638	3,212	884	542	8,546	16,541	17,018	79.8	83.7	4,180	1,747	1,611	2,231
	12 mos.	10,611	212,469	15,415	254,027	253,861	40,492	42,707	5,371	45,260	45,971	10,422	6,461	101,532	208,179	210,746	82.0	83.0	45,848	20,065	16,419	17,345
Chicago, Rock Island & Pacific	Dec.	7,631	14,158	1,587	17,556	16,474	2,179	1,836	253	2,849	2,667	616	503	7,368	13,797	12,934	78.6	78.0	3,759	1,123	1,265	2,068
	12 mos.	7,606	174,545	16,844	209,591	200,020	29,444	27,461	2,992	35,389	33,662	7,221	6,516	81,897	164,245	153,408	78.4	76.7	45,346	17,181	14,323	20,381
Clinchfield	Dec.	293	2,003	.....	2,012	2,085	372	255	24	381	371	99	65	449	1,331	1,189	66.2	57.0	680	154	718	781
	12 mos.	293	23,407	1	23,532	25,230	3,485	3,270	244	4,761	4,522	1,178	717	5,510	15,297	14,756	64.6	58.5	8,324	2,509	8,276	9,573
Colorado & Southern	Dec.	716	1,005	60	1,225	1,389	151	165	23	180	227	65	37	522	963	1,104	78.6	79.5	262	230	55	103
	12 mos.	718	13,458	818	15,846	15,596	2,314	2,392	240	2,534	2,549	696	424	6,378	12,524	12,372	79.0	79.3	3,323	2,013	1,185	960
Ft. Worth & Denver	Dec.	1,362	2,176	161	2,630	1,899	325	419	47	236	263	45	76	953	1,725	1,756	65.6	92.5	906	235	363	—35
	12 mos.	1,362	19,751	1,811	23,867	23,419	3,899	3,873	383	3,100	3,398	528	855	9,248	18,521	18,396	77.6	78.6	5,346	1,263	1,529	1,672
Colorado & Wyoming	Dec.	39	120	.....	218	364	—15	10	2	42	32	12	1	107	153	217	70.2	59.7	65	39	23	63
	12 mos.	39	2,756	.....	4,336	3,836	187	306	—2	484	390	137	17	1,549	2,433	2,305	56.1	60.1	1,903	1,095	737	605
Delaware & Hudson	Dec.	764	3,873	151	4,177	4,726	531	480	66	776	683	189	199	1,666	3,369	3,315	80.7	70.1	808	354	542	872
	12 mos.	770	52,268	1,863	55,836	57,409	6,729	6,477	723	9,301	8,564	2,220	1,213	19,415	40,112	38,619	71.8	67.3	15,724	8,390	8,858	10,531
Delaware Lackawanna & Western	Dec.	928	5,019	861	6,701	7,437	781	804	156	1,134	1,090	356	209	3,779	6,336	6,418	94.5	86.3	365	659	—396	443
	12 mos.	935	67,694	9,639	85,905	88,786	9,471	10,168	1,756	12,702	13,111	4,219	2,390	44,113	73,455	73,639	85.5	82.9	12,450	7,962	3,452	8,164
Denver & Rio Grande Western	Dec.	2,155	5,656	232	6,129	7,061	492	352	88	978	1,076	313	220	2,105	4,095	4,028	66.8	57.1	2,035	996	1,125	1,525
	12 mos.	2,155	79,662	3,032	85,236	81,355	9,495	9,006	1,259	12,680	11,836	3,587	2,713	25,914	54,346	51,348	63.8	63.1	30,890	15,363	15,974	15,494
Detroit & Toledo Shore Line	Dec.	50	224	.....	684	806	59	2	5	101	95	24	25	275	478	588	68.8	48.1	206	53	41	137
	12 mos.	50	7,340	.....	7,922	8,298	850	900	41	972	837	284	242	2,715	4,982	4,803	62.9	57.9	2,940	1,040	667	932
Detroit, Toledo & Ironton	Dec.	464	1,731	.....	1,810	1,829	196	56	29	319	123	129	61	487	1,156	780	63.9	42.7	654	101	531	839
	12 mos.	464	21,359	.....	22,311	20,775	2,966	2,760	335	4,742	3,991	1,402	680	5,848	15,419	13,676	69.1	65.8	6,891	1,170	5,506	4,683
Duluth, Missabe & Iron Range	Dec.	565	434	.....	512	2,332	870	604	213	914	734	161	13	870	2,913	3,921	568.9	168.2	—2,401	Cr.1,412	—951	—735
	12 mos.	566	49,180	13	57,828	47,035	6,717	5,509	1,100	9,321	7,722	1,792	137	18,372	37,178	33,549	64.3	71.3	20,649	12,115	8,638	5,535
Duluth, So. Shore & Atlantic	Dec.	544	427	4	460	572	108	133	12	80	126	27	31	211	455	567	98.8	99.3	6	38	—37	—44
	12 mos.	544	7,064	40	7,493	8,262	1,566	1,657	129	1,575	1,540	309	373	2,846	6,660	6,688	88.9	81.0	832	457	209	894
Duluth, Winnipeg & Pacific	Dec.	175	506	1	515	651	61	59	5	54	65	1	7	195	328	338	63.7	81.9	187	41	64	178
	12 mos.	175	6,105	10	6,182	6,937	1,020	863	63	696	881	22	83	2,172	4,087	4,796	66.1	69.1	2,096	468	540	564

Continued on page 52 ▼

Since 1950, when they started operations, the Western Pacific's two RDCs have each completed a million miles, have never missed a schedule, and have saved the railroad nearly $5,000,000 compared to the cost of the service they replaced.

Budd

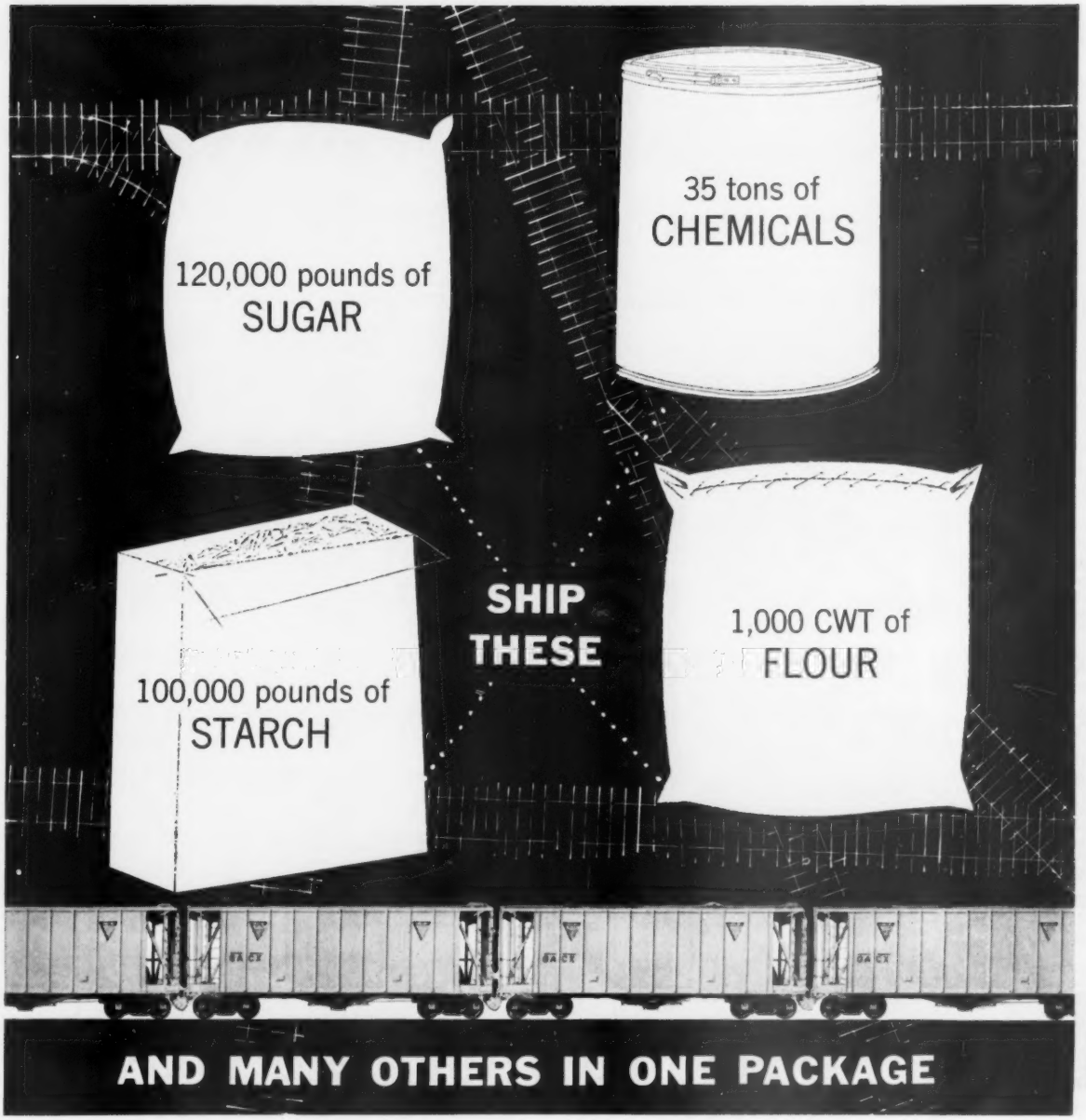
REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1957

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1957	Total (inc. misc.) 1956	Operating Expenses: Maint. Way and Structures: Total 1957	Total 1956	Deprec. and Retirements	Maint. Equipment: Total 1957	Total 1956	Deprec. and Retirements	Traffic	Transportation	Total 1957	Total 1956	Operating ratio 1957	Operating ratio 1956	Net from railway operation	Railway tax accruals	Net Railway operating income 1957	Net Railway operating income 1956
Elgin, Joliet & Eastern	Dec.	236	3,150	....	3,953	4,720	423	270	26	813	992	125	52	1,808	3,511	3,840	88.8	81.4	442	270	31	158
	12 mos.	236	46,037	1	56,916	53,518	3,690	3,134	330	11,341	10,104	1,449	518	21,074	40,193	36,292	70.6	67.8	16,723	7,377	4,363	4,766
Erie Railroad	Dec.	2,207	11,709	643	13,376	14,245	1,220	1,436	208	2,112	2,266	559	436	6,689	11,215	11,870	83.8	83.3	2,160	1,133	218	965
	12 mos.	2,207	154,666	7,006	173,160	175,900	20,036	20,555	2,676	26,951	25,960	6,581	4,869	79,868	141,082	137,694	81.5	78.3	32,079	12,278	10,815	15,313
Florida East Coast	Dec.	571	2,621	445	3,451	3,743	400	415	45	596	606	112	97	1,372	2,614	2,660	75.8	71.1	837	156	379	515
	12 mos.	571	30,481	5,525	38,938	37,742	5,753	4,821	650	6,974	6,423	1,294	1,089	14,557	30,340	27,908	77.9	73.9	8,598	2,579	2,857	4,259
Georgia Railroad	Dec.	321	492	20	619	763	83	107	2	123	138	14	42	307	594	628	96.0	82.2	25	37	9	143
	12 mos.	321	7,042	245	8,295	9,018	1,396	1,473	105	1,593	1,685	395	486	3,714	7,647	7,782	92.2	86.3	647	476	677	1,233
Georgia & Florida	Dec.	332	250	....	255	278	58	73	5	39	28	8	22	86	221	231	86.7	83.0	34	15	3	9
	12 mos.	332	3,285	....	3,357	3,555	826	1,092	84	463	455	95	266	1,062	2,827	3,079	84.2	86.6	530	198	83	10
Grand Trunk Western	Dec.	951	4,484	192	5,166	5,598	581	549	59	588	606	92	108	2,632	4,541	4,406	87.9	78.7	626	357	—286	356
	12 mos.	951	51,113	2,740	58,563	62,828	7,975	7,857	715	11,069	11,496	1,118	1,110	30,029	52,892	53,674	90.3	85.4	5,671	4,487	—5,125	—1,426
Great Northern	Dec.	8,274	16,127	962	18,912	20,588	3,807	3,242	599	3,423	4,402	762	480	7,662	16,317	17,414	86.3	84.6	2,595	1,220	1,309	1,806
	12 mos.	8,287	245,687	10,524	275,377	280,543	50,930	50,207	5,206	47,050	48,283	9,483	6,356	95,630	212,182	209,404	77.1	74.6	63,195	33,386	24,854	30,407
Green Bay & Western	Dec.	224	395	....	405	360	83	18	5	52	48	9	25	125	308	216	76.1	60.1	97	46	19	98
	12 mos.	224	4,562	....	4,692	4,527	819	924	54	630	505	110	290	1,445	3,443	3,297	73.3	73.0	1,248	582	288	362
Gulf, Mobile & Ohio	Dec.	2,757	6,357	349	7,315	7,189	1,144	1,064	100	1,469	1,512	292	287	2,430	5,692	5,760	77.8	80.1	1,623	642	480	587
	12 mos.	2,757	75,932	3,841	85,464	84,092	13,000	12,084	956	17,629	16,138	3,432	3,565	28,811	67,592	63,124	79.1	75.1	17,872	7,469	5,086	7,524
Illinois Central	Dec.	6,497	19,094	2,044	23,631	24,622	3,055	3,252	526	4,119	4,038	910	635	9,236	18,208	18,622	77.1	75.6	5,422	2,361	2,684	2,083
	12 mos.	6,501	241,269	22,308	289,756	298,419	44,622	45,200	4,939	53,654	50,363	10,522	7,484	109,319	228,417	222,528	78.8	74.6	61,339	31,364	20,833	28,010
Illinois Terminal	Dec.	339	862	27	1,019	1,038	8	121	—82	104	176	—69	52	394	620	839	60.8	80.8	399	76	253	43
	12 mos.	339	10,805	321	12,768	13,296	1,411	1,635	142	2,460	2,182	368	586	4,672	9,870	9,943	77.3	74.8	2,898	1,001	989	1,323
Kansas City Southern	Dec.	891	3,147	118	3,651	3,695	198	242	122	513	464	106	106	1,099	2,053	2,273	56.2	61.5	1,598	684	669	842
	12 mos.	891	39,933	1,238	45,133	47,008	3,734	4,425	666	5,783	5,808	1,253	1,174	13,822	26,110	27,015	57.9	57.5	19,022	8,223	7,995	7,921
Kansas, Oklahoma & Gulf	Dec.	327	465	....	465	394	69	4	7	44	32	12	39	100	285	203	61.2	51.5	181	24	105	75
	12 mos.	327	5,012	....	5,025	5,046	780	955	88	406	359	139	395	1,105	3,010	3,181	59.9	63.0	2,015	758	812	714
Lake Superior & Ishpeming	Dec.	145	80	....	91	193	96	77	8	82	132	21	4	81	314	339	346.6	330.2	—223	Cr. 102	—108	—88
	12 mos.	145	4,431	....	5,645	5,206	813	708	94	900	878	220	26	1,359	3,383	3,054	59.9	58.7	2,262	1,347	1,148	1,188
Lehigh & Hudson River	Dec.	96	295	....	296	288	41	35	3	65	36	8	18	117	257	209	86.7	72.8	39	3	—4	15
	12 mos.	96	3,841	....	3,845	3,382	465	425	29	546	417	99	211	1,313	2,705	2,403	70.3	71.1	1,140	474	201	187
Lehigh & New England	Dec.	178	399	....	405	572	55	103	2	201	189	52	28	182	532	557	131.5	97.4	—127	Cr. 48	1	145
	12 mos.	178	7,557	....	7,641	8,316	956	977	80	2,234	2,230	575	277	2,661	6,685	6,657	87.5	80.0	956	758	1,758	2,602
Lehigh Valley	Dec.	1,130	4,346	305	4,943	5,939	733	736	133	881	1,068	172	159	3,010	5,031	5,186	101.8	87.3	—88	360	—682	221
	12 mos.	1,145	61,030	3,071	67,577	71,581	8,833	9,060	1,225	12,104	12,051	2,336	1,827	33,078	58,827	58,206	87.1	81.3	8,750	5,504	946	6,726
Litchfield & Madison	Dec.	44	259	....	260	1,321	13	10	1	963	27	27	59	59	1,139	171	438.8	53.3	—880	408	—487	61
	12 mos.	44	3,456	....	3,484	3,484	147	131	9	1,279	294	81	547	702	2,950	1,933	84.7	50.3	535	202	—35	602
Long Island	Dec.	350	1,093	4,582	5,900	5,418	1,054	713	175	1,161	1,077	172	27	2,818	5,302	4,627	89.9	85.4	598	333	25	177
	12 mos.	351	14,150	50,654	66,955	64,522	9,475	8,972	1,231	12,781	12,380	2,011	334	32,831	57,758	55,529	86.3	86.1	9,197	4,148	2,118	1,898
Louisiana & Arkansas	Dec.	746	2,062	52	2,216	2,310	211	181	13	326	355	98	80	693	1,387	1,539	62.6	66.6	838	338	360	399
	12 mos.	746	24,532	606	26,495	28,181	2,613	2,918	194	3,756	3,735	1,165	957	8,228	16,501	16,944	62.3	60.1	9,994	4,570	4,014	5,431
Louisville & Nashville	Dec.	5,697	17,645	1,890	20,797	21,301	3,190	3,172	354	3,831	4,615	908	536	8,268	16,766	16,866	80.6	79.2	4,032	2,554	2,397	2,382
	12 mos.	5,707	216,420	11,004	245,338	248,021	37,067	35,847	3,576	53,120	52,132	13,776	6,175	97,189	204,063	195,811	83.2	78.9	41,275	32,424	23,829	30,688
Maine Central	Dec.	944	1,933	91	2,157	2,282	375	359	31	442	420	84	27	887	1,852	1,809	85.9	79.3	305	6	257	231
	12 mos.	944	24,232	1,070	26,977	27,394	5,106	5,130	340	4,891	4,687	964	299	10,148	21,815	21,190	80.9	77.4	5,162	2,312	2,145	2,606
Minneapolis & St. Louis	Dec.	1,391	1,586	3	1,672	1,615	254	250	51	223	276	8	122	696	1,465	1,385	87.6	85.8	207	82	146	102
	12 mos.	1,391	21,821	57	22,691	21,261	3,313	3,049	373	3,417	3,347	941	1,272	7,744	17,319	16,609	76.3	78.1	5,372	2,969	2,061	1,858
Minn., Northfield & Southern	Dec.	77	354	....	371	367	55	23	2	49	37	13	47	87	286	287	77.0	78.1	85	40	24	5
	12 mos.	77	4,472	....	4,772	4,520	724	380	27	425	404	130	346	1,035	2,913	2,428	61.1	53.7	1,858	918	675	809
Minn., St. Paul & S. S. Marie	Dec.	3,222	3,178	65	3,499	3,781	628	669	101	796	779	133	102	1,540	3,490	3,145	99.7	83.2	9	Cr. 65	—25	450
	12 mos.	3,222	44,180	852	47,425	47,991	10,133	9,662	607	8,349	8,111	1,609	1,178	17,430	39,379	37,613	83.0	78.4	8,046	3,916	2,769	3,813
Missouri-Illinois	Dec.	172	416	....	418	391	52	63	4	92	78	34	13	119	289	282	69.1	72.1	129	82	74	66
	12 mos.	172	5,925	....	5,963	5,845	645	740	52	988	974	367	144	1,486	3,401	3,422	57.0	58.5	2,562	1,505	1,296	1,301
Missouri-Kansas-Texas Lines	Dec.	3,071	4,222	90	4,991	6,368	721	893	143	1,225	1,120	256	202	1,944	4,348	5,242	87.1	82.3	643	321	—49	417
	12 mos.	3,168	57,954	2,150	66,568	74,451	11,035	10,491	1,161	12,205	12,018	3,136	2,609	25,239	54,413	59,586	81.7	80.0	12,155	4,821	2,290	5,324
Missouri Pacific	Dec.	9,586	21,198	1,064	25,303	24,754	3,793	3,904	752	3,448	4,179	1,040	660	10,308	19,241	19,345	76.0	78.1	6,062	2,054	2,948	2,876
	12 mos.	9,647	260,314	11,424	299,507	304,507	46,002	47,923	4,385	50,881	52,919	12,307	8,495	112,351	229,730	232,158	76.7	76.2	69,777	22,785	35,756	39,323
Monon	Dec.	541	1,556	70	1,788	1,910	214	251	20	330	307	79	115	786	1,548	1,584	86.6	82.9	240	87	61	106
	12 mos.	541	19,719	758	22,206	22,681	3,188	3,444	239	3,761	3,533	919	1,256	8,822	18,457	18,206	83.1	80.3	3,748	1,324	1,225	1,587
Monongahela	Dec.	177	442	....	445	540	79	74	17	56	59	11	1	187	342	333	76.9	61.7	103	28	—64	57
	12 mos.	177	6,147	....	6,185	6,454	924	895	194	759	709	136	10	2,351	4,215	3,962	68.2	61.4	1,970	342	—84	805
New York Central	Dec.	10,621	42,401	8,250	59,645	66,853	5,817	3,967	1,117	11,232	12,006	2,393	1,061	31,120	52,703	52,417	88.4	78.4	6,941	4,742	1,329	7,335
	12 mos.	10,621	561,849	88,454	741,572	780,435	90,643	84,328	14,397	130,582	137,326	28,366	13,448	351,659	627,432	633,643	84.6	81.2	114,139	67,440	29,532	58,321
Pittsburgh & Lake Erie	Dec.	221	2,404	58	2,583	3,926	313	84	18	781	527	283	79	1,218	2,642	2,431	102.3	61.9	—59	289	946	1,494
	12 mos.	221	40,391	630	43,037	42,168	6,195	4,650	1,203	12,504	10,757	3,229	956	15,521	37,897	33,979	88.1	80.6	5,140	8,437	9,880	10,797
New York, Chicago & St. Louis	Dec.	2,179	11,964	157	12,516	14,363	1,566	1,450	225	2,315	2,462	448	339	4,834	9,531	10,109	76.2	71.8	1,985	1,113	1,367	1,565
	12 mos.	2,179	165,085	1,835	172,517	174,578	19,987	19,623	2,253	29,496	28,288	5,189	4,356	63,494	123,246	121,741	71.4	69.7	49,271	22,837	19,693	21,632
New York, New Haven & Hartford (estimated for 1957)	Dec.	1,762	6,759	4,970	13,423	14,238	1,720	1,703	409	2,200	2,111	435	237	6,968	12,246	11,480	91.2	80.6	1,178	576	—891	595
	12 mos.	1,762	91,531	53,662	164,056	162,450	19,578	19,363	3,352	26,704	25,285	5,754	2,763	75,216	135,384	131,814	82.5	81.1	28,673	11,706	343	2,536
New York Connecting	Dec.	21	223	....	255	341	97	108	25	17	20	....	....	84	202	230	79.3	67.6	53	....	51	47
	12 mos.	21	3,447	....	3,733	4,197	1,237	1,258	304	198	156	....	....	1,030	2,507	2,469	67.2	58.8	1,226	1,000	181	597
New York, Susque. & Western	Dec.	120	339	44	395	455	43	48	6	60	64	12	7	194	332	381	84.0	83.7	48	63	35	—17	—1
	12 mos.	120	4,411	493	5,084	5,312	494	599	75	695	687	148	97	2,481	4,139	4,258	81.4	80.2	945	413	—6	235

Continued on page 54 ▼



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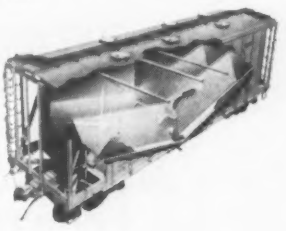


AIRSLIDE GENERAL AMERICAN TRADE MARK

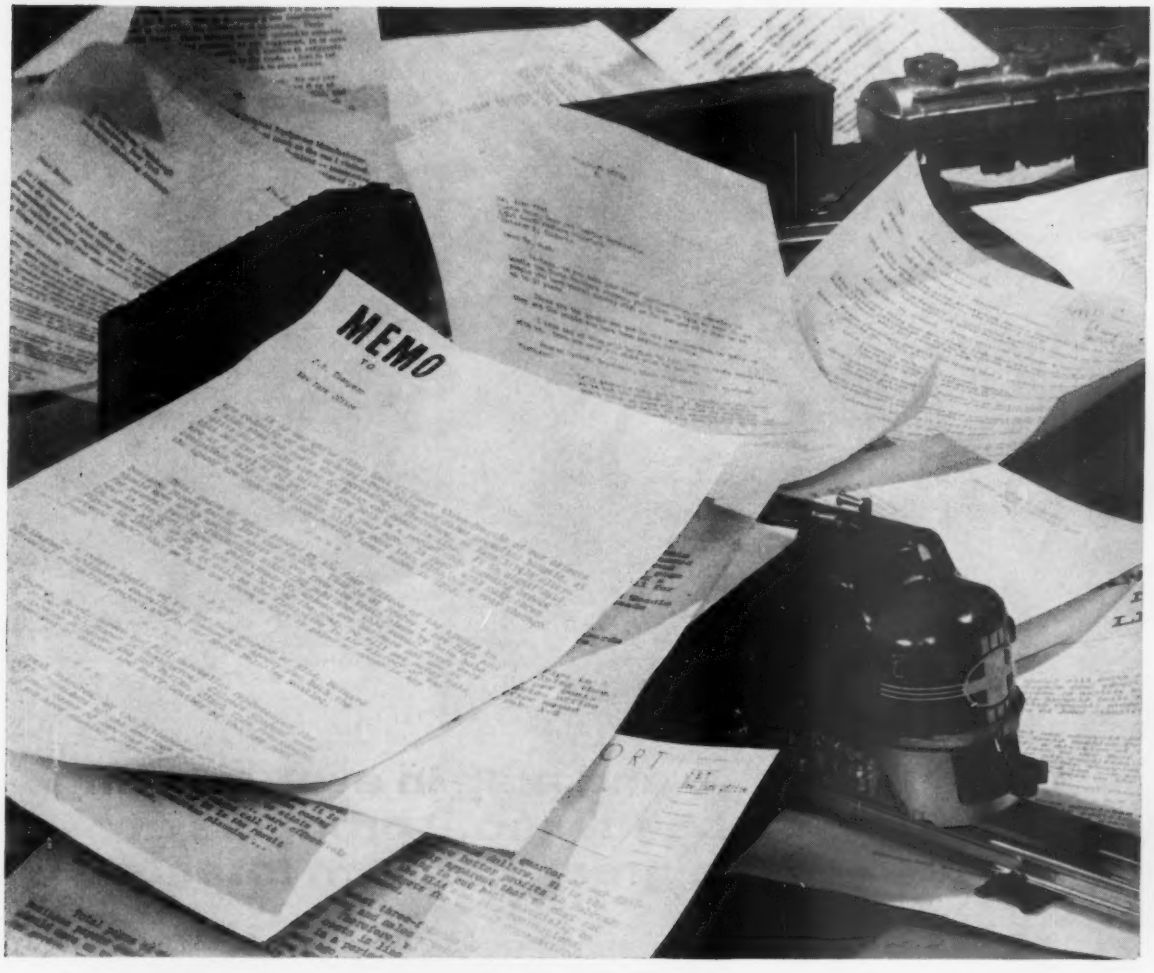
GENERAL AMERICAN TRANSPORTATION CORPORATION
135 South La Salle Street • Chicago 90, Illinois
Offices in all principal cities

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1957

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Operating Revenues: Pass.	Operating Revenues: Total (inc. misc.) 1957	Operating Revenues: Total (inc. misc.) 1956	Operating Expenses: Maint. Way and Structures: Total 1957	Maint. Way and Structures: Total 1956	Maint. Way and Structures: Deprec. and Retirements	Maint. Equipment: Total 1957	Maint. Equipment: Total 1956	Maint. Equipment: Deprec. and Retirements	Traffic	Transportation	Total 1957	Total 1956	Operating ratio 1957	Operating ratio 1956	Net from railway operation	Railway tax accruals	Net Railway operating income 1957	Net Railway operating income 1956
Norfolk & Western	Dec.	2,131	16,257	291	17,618	20,046	2,474	2,577	301	3,738	3,845	1,293	459	6,163	14,060	14,284	78.8	70.9	3,558	1,046	3,231	4,796
	12 mos.	2,132	235,715	3,220	251,133	239,663	33,297	31,348	3,816	49,280	49,380	11,467	4,675	73,436	171,334	164,918	68.2	68.8	79,799	47,472	44,676	41,316
Norfolk Southern	Dec.	604	735	.....	748	961	250	209	28	115	133	33	48	253	721	743	96.3	77.3	28	Cr. 3	14	81
	12 mos.	604	10,286	.....	10,525	10,689	2,548	2,311	189	1,575	1,501	388	610	3,302	8,702	8,381	82.7	78.4	1,823	902	663	748
Northern Pacific	Dec.	6,829	12,101	606	14,142	13,891	2,524	2,768	382	3,276	2,664	715	404	6,415	13,633	13,598	96.4	97.9	509	Cr. 235	982	534
	12 mos.	6,830	164,649	6,590	184,403	188,170	28,465	27,948	4,025	34,854	33,656	8,054	4,856	73,107	152,670	151,534	82.8	80.5	31,733	17,115	17,402	17,875
Northwestern Pacific	Dec.	329	747	2	759	786	233	266	50	49	80	3	8	308	620	756	81.7	96.1	139	27	—37	—81
	12 mos.	329	11,948	38	12,106	12,820	2,914	2,571	328	1,070	1,243	35	91	4,020	8,408	8,490	69.5	66.2	3,697	1,220	532	649
Pennsylvania	Dec.	9,937	51,621	10,421	71,073	81,400	8,002	7,926	1,224	15,214	14,160	3,013	1,128	37,811	65,927	69,072	92.8	84.9	5,146	3,478	—1,683	3,889
	12 mos.	9,958	765,176	121,740	987,337	991,107	114,533	105,466	17,170	205,171	198,250	36,298	16,481	451,052	838,855	816,761	85.0	82.4	148,381	66,092	43,154	67,121
Penn.-Reading Seashore Lines	Dec.	358	595	75	693	699	262	106	36	77	126	27	9	517	875	798	126.4	114.3	—183	Cr. 224	—100	—272
	12 mos.	358	7,616	1,516	9,413	9,600	2,687	2,557	357	1,369	1,536	320	127	6,123	10,818	10,741	114.9	111.9	—1,405	629	—4,058	—3,930
Piedmont & Northern	Dec.	126	417	.....	425	484	52	52	4	30	42	9	30	97	244	279	57.4	57.8	181	84	51	58
	12 mos.	126	5,214	.....	5,333	5,693	560	544	53	377	368	113	343	1,019	2,690	2,646	50.4	46.5	2,643	1,299	797	982
Pittsburgh & West Virginia	Dec.	132	750	.....	755	760	68	124	24	121	122	44	67	232	555	593	73.5	78.0	200	112	99	105
	12 mos.	132	9,825	.....	9,918	9,230	1,436	1,385	291	1,616	1,635	519	895	2,622	7,240	6,831	73.0	74.0	2,679	1,228	1,518	1,353
Reading	Dec.	1,303	9,413	671	10,532	12,265	1,340	1,409	231	2,082	2,387	496	213	4,669	8,630	9,299	81.9	75.8	1,903	—15	1,502	1,689
	12 mos.	1,304	120,634	7,123	136,318	138,280	18,857	17,885	2,347	26,147	25,939	5,884	2,451	55,753	109,017	105,752	80.0	76.5	27,301	7,704	16,407	16,234
Richmond, Fred. & Potomac	Dec.	118	1,145	513	2,065	2,385	202	178	26	338	341	67	30	784	1,513	1,548	73.4	64.9	552	273	176	382
	12 mos.	118	17,376	5,912	26,762	27,130	2,697	2,706	307	3,956	3,798	805	356	9,171	17,921	17,512	67.0	64.5	8,841	4,665	2,981	3,363
Rutland	Dec.	391	383	.....	405	419	53	49	4	71	50	18	33	160	360	338	88.8	80.6	45	19	21	54
	12 mos.	391	4,829	.....	5,114	5,202	983	1,030	90	744	613	200	364	1,946	4,393	4,238	85.9	81.5	720	334	267	422
Sacramento Northern	Dec.	349	124	.....	131	166	6	71	23	28	18	6	2	75	171	170	130.3	102.2	—40	17	—63	—41
	12 mos.	349	1,966	1	2,067	2,198	630	855	51	199	187	67	28	786	1,873	2,118	90.6	96.4	195	289	—169	—330
St. Louis-San Francisco	Dec.	4,593	8,025	319	9,264	9,839	1,561	724	494	1,767	1,615	612	371	4,166	8,536	7,635	92.1	77.6	728	Cr. 182	685	1,133
	12 mos.	4,608	107,316	4,041	120,011	125,718	16,790	17,965	2,335	20,231	20,398	6,966	4,579	49,013	97,935	98,719	81.6	78.5	22,076	8,731	11,265	14,291
St. Louis-San Fran. & Texas	Dec.	143	324	3	351	385	141	64	113	25	27	1	25	151	360	307	102.6	79.8	—9	Cr. 62	4	—5
	12 mos.	154	4,148	43	4,465	4,717	559	567	158	346	391	14	314	1,948	3,316	3,298	74.3	69.9	1,149	287	178	204
St. Southwestern Lines	Dec.	1,560	4,991	13	5,123	5,316	724	484	167	761	787	182	193	1,736	3,625	3,391	70.8	63.8	1,498	416	859	796
	12 mos.	1,560	64,193	175	65,727	67,958	8,525	8,194	949	8,802	8,720	1,884	2,360	20,440	42,397	42,461	64.5	62.5	23,331	10,815	9,732	10,913
Savannah & Atlanta	Dec.	144	298	.....	304	287	38	79	2	60	62	19	16	101	229	266	75.5	93.0	74	16	45	22
	12 mos.	144	3,842	3	4,027	3,893	802	650	19	677	604	252	189	1,212	3,029	2,657	75.2	68.3	997	231	627	668
Seaboard Air Line	Dec.	4,060	11,488	1,215	14,235	14,589	1,485	1,769	263	2,533	2,462	368	424	5,146	10,256	10,728	72.0	73.9	3,979	1,674	2,021	1,876
	12 mos.	4,061	137,590	13,906	165,120	162,151	21,988	22,176	2,637	30,575	30,392	7,340	5,030	57,526	122,512	120,450	75.3	74.3	40,308	16,868	21,343	22,938
Southern Railway	Dec.	6,273	18,779	1,239	22,199	23,291	2,537	2,423	708	2,969	3,407	528	489	7,201	14,529	14,908	65.4	64.0	7,670	2,949	4,179	4,132
	12 mos.	6,280	233,738	13,652	266,846	275,385	36,691	36,717	4,694	46,668	47,296	10,823	5,769	86,660	190,582	188,864	71.4	68.6	76,264	30,954	40,531	45,691
Alabama Great Southern	Dec.	328	1,272	52	1,531	1,552	310	183	42	293	263	53	41	510	1,275	1,082	83.3	69.7	256	4	236	772
	12 mos.	328	16,005	610	18,207	18,193	3,268	2,837	439	3,862	3,565	832	489	6,130	15,078	13,552	82.8	74.5	3,128	1,179	1,767	2,969
Cinn., New Orleans & Tex. Pac.	Dec.	337	3,287	133	3,728	3,587	177	274	74	504	571	84	81	879	1,851	2,053	49.6	57.2	1,877	742	1,221	808
	12 mos.	337	37,988	1,449	41,885	43,096	6,495	6,628	749	7,943	7,453	2,234	985	10,856	28,668	27,980	68.4	64.9	13,218	6,340	8,414	8,255
Georgia Southern & Florida	Dec.	475	1,370	62	1,543	856	—94	—286	30	70	66	11	.....	187	148	147	9.6	17.2	1,395	35	1,132	493
	12 mos.	475	8,823	599	10,261	10,053	1,825	2,008	163	964	982	134	255	3,155	6,916	7,199	67.4	71.6	3,345	479	886	450
New Orleans & Northeastern	Dec.	203	909	36	1,047	1,197	6	6	19	88	150	13	25	195	394	531	37.6	44.4	653	377	257	221
	12 mos.	203	11,404	412	12,671	13,740	2,159	1,940	308	1,794	1,836	614	289	2,881	8,009	7,795	63.2	56.7	4,661	2,728	1,777	2,243
Southern Pacific	Dec.	8,094	36,050	2,422	42,287	41,030	5,915	5,803	1,176	9,328	9,293	2,386	845	17,253	35,537	37,131	84.0	90.5	6,750	2,855	3,470	2,227
	12 mos.	8,094	463,917	29,654	523,537	537,915	66,093	67,453	7,018	115,960	117,003	27,387	10,142	209,756	428,240	440,332	81.8	81.9	95,297	40,845	45,030	41,225
Texas & New Orleans	Dec.	4,283	10,938	328	12,191	11,762	2,136	2,155	439	1,582	1,623	191	256	4,271	8,839	9,363	72.5	79.6	3,353	1,333	923	744
	12 mos.	4,290	127,160	4,267	139,958	140,410	23,668	25,609	2,689	18,196	20,101	2,156	3,221	51,358	103,891	108,163	74.2	77.0	34,065	13,835	8,805	7,547
Spokane International	Dec.	150	272	.....	281	310	37	1	5	2	5	10	5	67	123	76	43.9	24.6	158	98	38	181
	12 mos.	150	3,597	.....	3,730	3,697	617	630	35	336	331	119	72	939	2,129	2,123	57.1	57.4	1,680	557	708	673
Spokane, Portland & Seattle	Dec.	945	2,301	92	2,539	2,208	629	442	58	447	289	128	40	1,276	2,513	1,977	99.0	89.6	26	186	—208	163
	12 mos.	945	28,946	992	31,883	33,704	5,080	4,785	686	5,356	4,988	1,451	404	12,209	24,450	23,131	76.7	68.6	7,433	2,673	3,529	5,709
Tennessee Central	Dec.	286	361	.....	370	443	53	65	6	63	70	22	19	123	287	320	77.4	72.2	84	28	7	45
	12 mos.	286	4,533	7	4,761	5,320	837	925	63	775	822	267	216	1,495	3,448	3,855	77.9	72.5	1,041	300	197	597
Texas & Pacific	Dec.	1,831	6,418	355	7,606	7,041	819	898	137	1,074	1,156	266	208	2,595	5,072	5,260	66.7	74.7	2,534	1,447	680	978
	12 mos.	1,831	68,432	4,091	79,500	81,389	10,934	12,804	1,080	12,983	13,106	3,119	2,402	29,596	60,317	61,524	75.9	75.6	19,183	8,036	6,280	9,333
Texas Mexican	Dec.	161	297	.....	317	282	51	55	6	33	41	10	13	94	225	203	71.0	71.8	92	41	17	9
	12 mos.	161	3,551	.....	3,831	3,241	659	656	67	387	381	119	142	1,008	2,465	2,249	64.3	70.0	1,366	561	334	223
Toledo, Peoria & Western	Dec.	239	516	.....	526	484	32	12	3	77	56	12	55	162	372	344	70.6	71.0	155	67	30	16
	12 mos.	239	7,495	.....	7,624	7,561	907	1,100	72	697	605	144	640	1,944	4,678	4,666	61.3	61.7	2,946	1,298	867	966
Union Pacific	Dec.	9,786	35,379	2,355	42,197	43,067	5,327	5,531	932	8,782	8,208	1,840	1,163	15,146	33,469	34,611	79.3	80.4	8,728	6,087	1,129	—212
	12 mos.	9,786	452,889	28,047	517,060	514,317	66,932	66,114	7,018	95,464	92,721	21,182	14,006	178,646	382,355	376,255	73.9	73.2	134,705	73,690	38,818	42,137
Virginian	Dec.	608	4,192	.....	4,429	4,740	938	524	198	918	724	294	65	1,208	3,240	2,415	73.2	51.0	1,189	513	808	1,453
	12 mos.	611	61,550	.....	64,625	56,492	7,345	6,061	949	8,696	7,908	2,940	698	11,985	30,108	26,878	46.6	47.6	34,517	18,303	19,076	16,256
Wabash	Dec.	2,392	8,007	435	9,548	10,384	1,192	1,042	54	1,491	1,457	439	357	4,538	7,987	8,071	83.6	77.7	1,561	Cr. 128	767	975
	12 mos.	2,392	108,727	5,210	124,287	119,520	14,595	13,043	2,109	17,930	16,582	4,981	4,268	54,791	97,144	90,631	78.2	75.8	27,143	6,908	10,981	12,099
Ann Arbor	Dec.	294	680	2	688	808	67	67	7	124	170	40	34	374	623	680	90.6	84.1	65	17	45	60
	12 mos.	294	9,246	35	9,464	9,756	1,106	1,041	84	1,968	1,820	458	398	4,381	8,135	7,792	86.0	79.9	1,329	620	470	777
Western Maryland	Dec.	845	3,781	1	3,982	4,776	631	377	73	833	789	267	158	1,367	3,184	3,081	80.0	64.5	798	218	815	1,105
	12 mos.	846	51,683	32	54,835	52,445	7,320	6,785	703	9,782	9,021	3,102	1,519	16,767	38,499	36,377	70.2	69.4	16,336	8,452	12,198	10,932
Western Pacific	Dec.	1,192	3,627	178	3,905	3,971	559	558	105	616	766	210	225	1,500	3,242	3,259	83.0	82.1	661	16	576	331
	12 mos.	1,192	50,990	2,290	54,533	53,590	8,689	9,556	1,211	7,729	7,751	2,480	2,627	18,332	40,878	41,119	75.0	76.7	13,655	5,378	7,130	6,753
Wisconsin Central	Dec.	1,031	2,192	41	2,430	2,872	366	320	45	520	510	96	90	1,263	2,385	2,307	98.2	80.4	44	183	—289	124
	12 mos.	1,031	31,756	475	34,304	33,624	5,430	5,008	484	5,611	5,254	1,068	1,058	14,292	28,044	26,065	81.8	77.5	6,260	2,238	1,850	3,421



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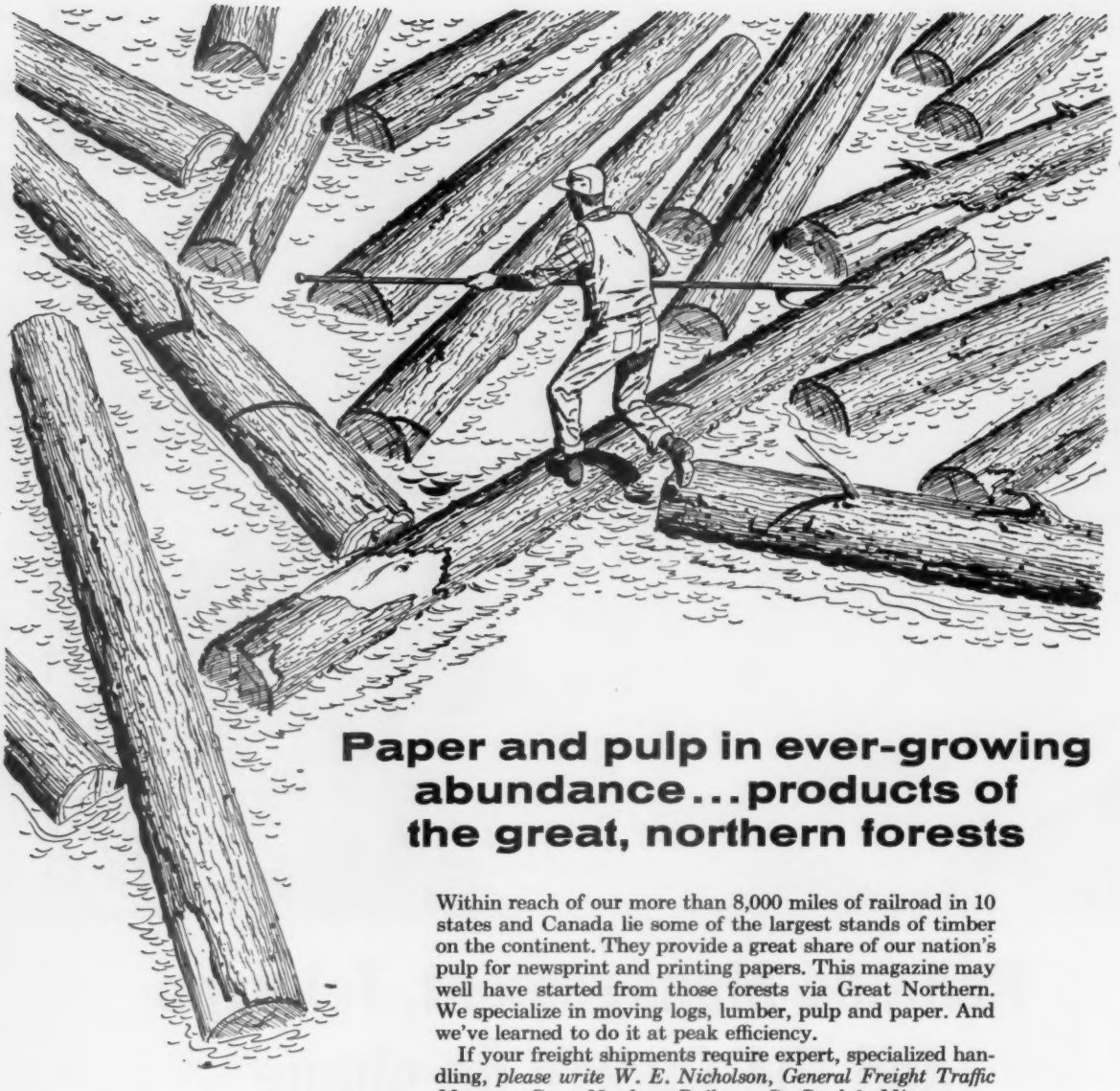

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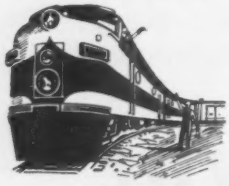

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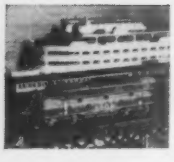
Lubrication

case study–

STANDARD HD Oil's ten years' service on the GM & O



This is a case story about the performance of STANDARD HD Oil in eight power units on the Gulf Mobile & Ohio over the last ten years. These eight EMD units pull "hot shot" passenger trains, including the famed "Abraham Lincoln" and the "Ann Rutledge," between Chicago and St. Louis. The units roll up 18,000 to 20,000 miles per month. They travel the 285 miles of the route in less than five and a half hours, including station stops.

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STANDARD

Current OPERATING DEPARTMENT Questions

Problem: How would you load cars to cut empty miles?

In our column of January 27, we gave you a car service quiz. The problem was: to load 15 Class A box cars at Horseheads, N. Y., on the Lackawanna, so that when they reached destination they would be either on the home road or no more than 125 miles from a junction with the owning line. Total empty mileage created should be less than 1,000 rail miles.

In previous quizzes we specified that cars must be applied in accordance with car service rules. We intended to so specify in this one, but inadvertently did not do so. Answers have been considered correct, therefore, if they showed that cars were loaded to within 125 miles of a home junction, or to a home point, the total mileage not to exceed 1,000. This, in spite of the fact that under the car service rules, shipping the N&B car to Philadelphia is not permissible. This one is a "rule 2" car to the DL&W. It could be used properly only via that road or to a DL&W point. Our Solution:

LOAD DESTINATION	CAR USED	HOME JCT	MILES
Albany, N.Y.	NH	State Line	37
Augusta, Me.	BM or MTC	Portland	61
Austin, Tex.	ATSF	Milano	70
Battle Creek, Mich.	C&O	Lansing	44
Birmingham, Ala.	AWP	Montgomery	97
Concord, N.H.	BM or MTC	—	0
Jefferson City, Mo.	SLSF	Pacific, Mo.	87
Little Rock, Ark.	RI	—	0
Knoxville, Tenn.	CRR	Frisco, Tenn.	102
Madison, Wis.	CGW	So. Freeport	67
New York City	N&B	Bath, Pa.	105
Phila. (via CNJ-Rdg)	CNJ	Bethlehem	54
Springfield, Ill.	CNW	Barr	11
Washington, D.C.	N&W	Shenandoah Jct.	62
White River, Jct., Vt.	QC	Newport	104
TOTAL MILES			901

The names of those submitting correct answers received up to press time follow. Any others received before March 10 will appear later.

Association of American Railroads, **CAR SERVICE DIVISION:** H. G. Randall, district manager, and J. S. Swift, car service agent, Detroit, Mich.; S. H. Whitehead, car service agent, Philadelphia, Pa.

ATLANTIC COAST LINE: L. A. McLean, foreman, Waycross, Ga.

ATCHISON, TOPEKA & SANTA FE: T. E. Carpenter, Independence, Kans.; C. E. Gilbert, agent, Zenith, Kans.; E. J. Hodges, home route clerk, W. L. Rhodes, asst. head clerk, and E. G. Schwerdt, chief clerk to superintendent car service, Topeka, Kans.

BESSEMER & LAKE ERIE: E. L. Maurer, demurrage agent and F. T. Westmeyer, superintendent transportation, Greenville, Pa.

CANTON: M. A. Myers, traffic manager, Baltimore, Md.

CHESAPEAKE & OHIO: H. H. Harwood, staff assistant, Cleveland, Ohio.

CHICAGO GREAT WESTERN: W. A. Vaughn, sales manager, Houston, Texas.

CHICAGO, ROCK ISLAND & PACIFIC: R. J. Lane, special representative, Chicago.

CHICAGO & WESTERN INDIANA: J. H. Schroeder, Chicago.

CHICAGO & NORTH WESTERN: K. C. Brovald, agent, Rushmore, Minn.

ELGIN, JOLIET & EASTERN: S. V. Moran, agent, Whiting, Ind.

ERIE: F. R. Ball, agent, Barberton, O.; John T. Beebe, clerk, Wellsville, N. Y.; E. A. Blair, supervisor stations and car service, Marion, O.; Larry Buckingham, chief clerk, Creston, O.; L. F. Cavin, agent, Pavonia, O.; Vernon Danals, agent, Wadsworth, O.; C. R. Dohme, chief clerk, Kent, O.; T. M. Gilbert, chief clerk to freight traffic manager, New York City; D. H. Gorman, car distributor, Marion, O.; C. W. Harrington, operator-clerk, Rittman, O.; C. D. Johns, clerk, Akron, O.; I. A. Knepp, rate & ticket clerk, Wadsworth, O.; R. F. Layer, chief clerk, Mansfield, O.; S. D. McNeil, agent, Kent, O.; H. C. Moore, chief rate clerk, Akron, O.; K. F. Morrison, agent, Union City, Pa.; J. T. Murphy, inspector operations, Cleveland, O.; Bob Osborne, general clerk, Mansfield, O.; A. E. Pavlov, general clerk, Barberton, O.; E. B. Peake, agent, Creston, O.; W. F. Rathburn, agent, Mansfield, O.; E. A. Robinson, agent, Ravenna, O.; W. D. Slater, general clerk, Rittman, O.; A. G. Stine, agent, Marion, O.; C. H. Williamson, agent, Richwood, O.; E. E. Woodford, rate clerk, Mansfield, O.; R. E. Wyllie, yard clerk, Mansfield, O.

GRAND TRUNK WESTERN: Rodger Darling, typist-clerk, Chicago, Ill.

GREAT NORTHERN: L. R. Bishop, supervisor diesel assignments, and J. J. Boettner, assistant to general superintendent transportation, St. Paul, Minn.; D. N. Brimble, telegrapher, Tacoma, Wash.; Jack Campbell, agent, Michigan, N. D.; R. W. Campbell, Larimore, N. D.; I. D. Christianson, agent, Granville, N. D.; D. J. Conroy, Rugby, N. D.; O. J. DesJardins, car distributor, Grand Forks, N. D.; W. A. Ferrell, general yardmaster, Great Falls, Mont.; M. W. Foster, agent, Klamath Falls, Ore.; A. J. Karras, agent, Crookston, Minn.; A. O. Lien, car distributor,

(*Continued on page 62*)

CONDUCTED by G. C. RANDALL, district manager, Car Service Division (ret.), Association of American Railroads, this column usually runs in alternate issues of this paper, and is devoted to authoritative answers to questions on transportation department matters. Questions on subjects concerning other departments will not be considered, unless they have a direct bearing on transportation functions. Readers are invited to submit questions, and, when so inclined, letters agreeing or disagreeing with our answers. Communications should be addressed to Question and Answer Editor, Railway Age, 30 Church Street, New York 7.

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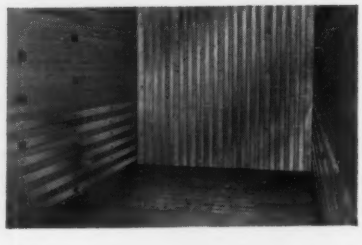

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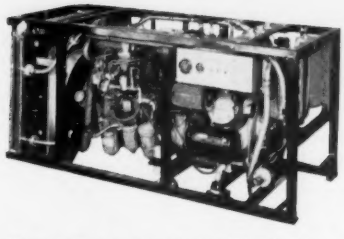
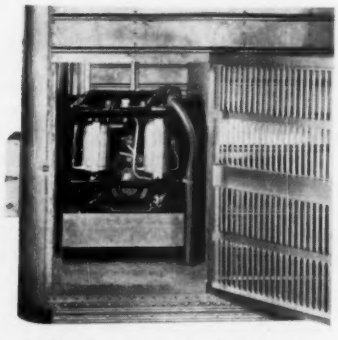


Power plant and condenser, Tropic-Aire—Carrier Model No. 129D8A.



Left side view, internal installation, Wabash RR refrigerated trailer fleet.

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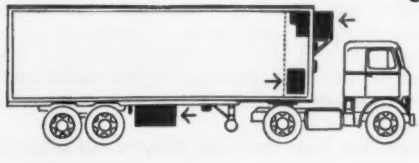

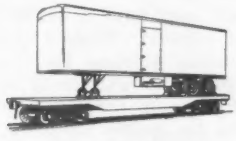

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(*Continued from page 59*)

Willmar, Minn.; W. E. Lofdahl, assistant to trainmaster, Spokane, Wash.; R. A. Osman, agent, Hillsboro, N. D.; W. R. Piepgras, car distributor, St. Paul, Minn.; W. C. Preston, assistant general superintendent transportation, St. Paul, Minn.; G. A. Street, assistant car distributor, Spokane, Wash.; J. A. Whittaker, station inspector, Spokane, Wash.

LAKE SUPERIOR & ISHPEMING: R. C. Frederickson, agent, Ishpeming, Mich.

LOUISIANA & ARKANSAS: F. F. Fishback, trainmaster's clerk, Alexandria, La.

MISSOURI PACIFIC: Ray Magee, yard clerk, DeQuincy, La.

NEW YORK CENTRAL: G. W. Billmyer III, special assistant to superintendent, Indianapolis, Ind.; T. A. Solato, agent, Auburn, N. Y.; S. E. Herring, engine dispatcher, Bellefontaine, O.

NICKEL PLATE: L. C. Bittinger, agent, St. Mary's, O.; J. G. Hoge, transportation supervisor, Cleveland, O.; R. L. Stimmel, clerk, mechanical department, Ft. Wayne, Ind.

NEW HAVEN: C. L. Bardo, transportation department, New Haven, Conn.; W. H. Walker Jr., towerman, Readville, Mass.

NORTHERN PACIFIC: R. M. Montbriand, chief clerk, Fargo, N. D.

PENNSYLVANIA: L. P. McKnett, agent, Cambridge, Md; C. E. Williams, district sales manager, Erie, Pa.

READING: J. N. Newcomer, assistant agent, Williamsport, Pa.

ST. LOUIS-SAN FRANCISCO: L. C. Aldrich, agent, Leon, Kans.

SOO LINE: G. F. O'Keefe, chief clerk, Thief River Falls, Minn.; H. J. Peterson, freight claim department, Minneapolis, Minn.

SOUTHERN: Ray Kynerd, agent, Evansville, Ind.; G. L. Yingling, agent, Winston-Salem, N. C.

SOUTHERN PACIFIC: F. M. Connett, foreman, stores department, West Oakland, Calif.; Ray Martsfield, chief clerk, traffic department, Salem, Ore.; V. L. Spurgeon, agent, Corvallis, Ore.; E. J. Van Nordeck, passenger information clerk, Los Angeles, Calif.

SPRINGFIELD TERMINAL: D. A. Smith Jr., general manager.

TEXAS SOUTH-EASTERN: J. F. Robison, clerk, Diboll, Tex.

WESTERN MARYLAND: L. B. Moser, assistant to superintendent transportation, Hagerstown, Md.; J. H. Rohrer, chief clerk, Hagerstown, Md.

OTHER THAN RAILROAD EMPLOYEES: S. T. Allen, N. J.; Carl Blaubach, California Public Service Commission, Los Angeles, Calif.; F. W. Bryan, Rensselaer Polytechnic Institute, Troy, N. Y.; C. L. E. DeGangue, Clifton, N. J.; N. M. Hickok, traffic manager, Western Paper Converting Co., Salem, Ore.; G. D. Powell, Charlotte, N. C.; R. J. Staunton, California Public Service Commission, San Gabriel, Calif.; R. W. Thompson, transportation analyst, Fantus Factory Locating Service, Chicago, Ill.; J. W. Zimmerman and C. E. Shifley, diversion department, Pacific Fruit Express, Salinas, Calif.

Railroading After Hours with Jim Lyne

BRITONS WITH ACTIVE BRAINS—I have mentioned here recently a British pamphlet entitled "The Obligation to Carry" by A. M. Milne and A. Laing (published by the Institute of Transport, 80 Portland Place, London W.1, price 5 shillings). This 130-page booklet goes into the whole question of the reason (if any) why railroads should be required to provide unprofitable services—and why they should not "discriminate" in their rates between patrons, where one is a more convenient or less costly fellow to serve than the other.

The kind of freedom the British railways have obtained—as to service and rates—should be an eye-opener for Americans. The Britons are a whole generation ahead of us in their understanding of these things—and in carrying their thinking into action.

Now, along comes another highly stimulating little book entitled "British Transport Policy" by J. R. Sargent (published by the Clarendon Press, Oxford, price 15 shillings). The author concerns himself with rates to divide traffic economically between rail and highway. While I question some of his conclusions, I certainly welcome his discussion of the problem. If these two little books were to be at all widely read on this side of the Atlantic, I think our solution of the problems discussed would be greatly advanced.

PASSENGERS PER EMPLOYEE — The Boston Herald has been getting after its local commuter and transit lines for their relative showing of passengers per employee—and it shows the railroads in a rather unfavorable light for using 3 men on a single rail car (compared to 2 men for an 8-car train on the New York subway). It wasn't railroad managements that put 3 men on a rail car, and one of these days the practical impossibility of making an overstaffed train pay its way is going to be recognized.

CAR SOAKED IN CRUDE OIL—Down in Costa Rica, on the Northern Railroad, every time they get a new freight car—or give an existing car heavy repairs—they immerse the car up to the floor level in a pit filled with crude petroleum. They let the car stand in the pit for about half an hour—then they let it drip-dry for several days, before they put it into active service.

My colleague Bob Lewis—who just got back from a week's vacation in Central America—told me about this operation and showed me a colored slide portraying it. He says the Northern Railroad people report that the soaking in crude oil does wonders in easing their car-maintenance problem.

CROSS-CONTINENT TRAIN—I keep on getting mail about the idea of a cross-continent experimental passenger run, which I've mentioned here a couple of times; and which we went into more detail about in the "Action Page" in our March 3 issue.

Now I have a further suggestion from a responsible traffic executive that an experiment of this kind ought not to stop with passenger service—but should embrace freight service as well.

There has been so much negative discussion about railroads going on in recent months that it's high time some innovations were instituted, which would get railroaders and the public to thinking of railroads in terms of growth. There are times when retrenchment is unavoidable, but no business ever waxed prosperous on a program of retrenchment only. The logical terminal for retrenchment is retirement from business.

9 ROADS WILL HAVE *LESS* HOT BOX TROUBLE THIS SUMMER...

they've got "Hot Box Detectives" beside their track

May, June, July, and August are the traditional months for great surges in hot box problems—but the nine roads that have turned to the Hot Box Detective* look forward to a continued decrease in their hot box rate *every season of the year.*

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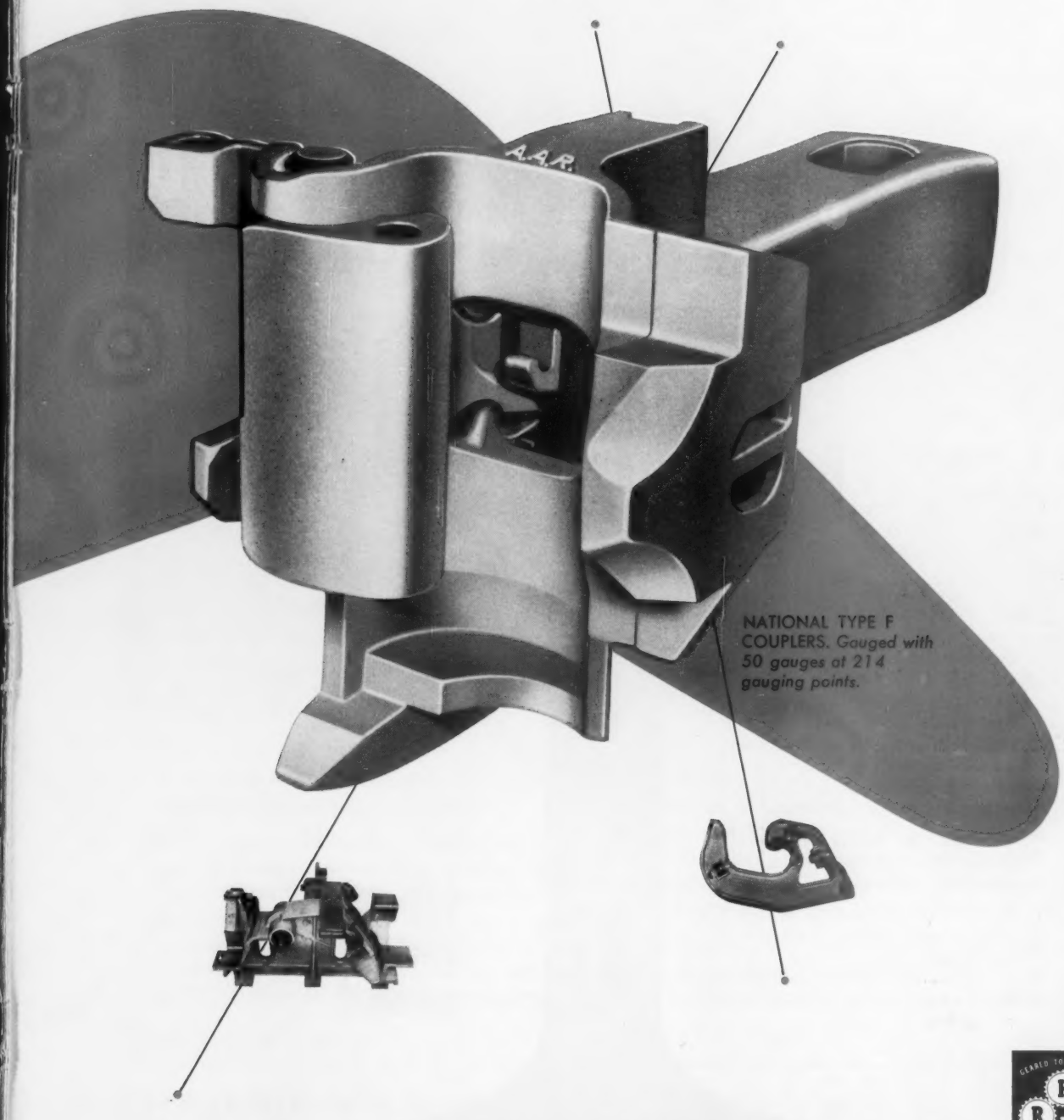

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People in the News

ARKANSAS & LOUISIANA MISSOURI.—**Fletcher W. Ashcraft,** assistant to president, Monroe, La., advanced to president, succeeding **R. F. Humble,** who retired December 31, 1957.

ATLANTIC COAST LINE.—**J. R. LeGrand** appointed general industrial agent, Wilmington, N. C.

The Richmond and Norfolk districts have been consolidated and will be known as the Richmond district under jurisdiction of the superintendent at Rocky Mount, N. C. **F. B. Robins,** superintendent, Portsmouth, appointed superintendent terminals, Richmond, Va., and his former position abolished.

Russell R. Duncan appointed assistant general passenger agent, Washington,, D.C. **W. F. Concannon, Jr.,** district passenger agent, Atlanta, Ga., transferred to Washington in the same capacity to succeed Mr. Duncan.

E. N. Zeigler, assistant chief of property protection, named chief claim agent, Wilmington, N.C.

BROTHERHOOD OF LOCOMOTIVE ENGINEERS.—**Richard J. Murway** appointed public relations director, succeeding the late **William W. Griffith.** Mr. Murway also will serve as editor of the biweekly Brotherhood newspaper, of which he has been associate editor for a year.

BURLINGTON.—**L. F. Hanke,** executive assistant-public relations, Chicago, retired March 1 after 42 years' service.

Glen F. Bridges, general agent, St. Joseph Union Station Company, St. Joseph Mo., appointed division passenger agent, CB&Q, Omaha, succeeding **S. C. Daniels,** retired.

CANADIAN PACIFIC.—**E. E. Marlin** appointed acting superintendent, Portage division, Winnipeg, Man., succeeding **R. McEwen,** named assistant to vice-president, Winnipeg, Man. Mr. McEwen replaces **M. A. Keays,** assigned to special duties.

CENTRAL OF GEORGIA.—**H. S. Brown** appointed general agent, Memphis, Tenn., succeeding **W. C. Hurst, Sr.,** retired.

CHICAGO & NORTH WESTERN.—**Vernon G. Hesse,** formerly assistant manager, truck transportation department, Alton Box Board Company, Alton, Ill., named to the newly created position of material handling manager, purchases and stores department, C&NW.

George W. Ireland, formerly with Standard Oil Company, Chicago, appointed material control manager, purchases and stores department, C&NW.

DELAWARE & HUDSON.—**W. J. Schramm** appointed assistant to engineer maintenance of way. **N. H. Williams** named engineer of track, and **J. H. Phillips** appointed engineer of structures, all at Albany. Abolished positions: Division engineer of the Saratoga-Champlain division at Albany, division engineer of the Pennsylvania-Susquehanna division at Oneonta, and assistant division engineer—bridge and building master, formerly held by, respectively, Messrs. Schramm, Williams and Phillips. **J. J. Connor** appointed assistant engineer of structures and bridge and building master, Albany. **C. C. Tubbs** named office engineer, Albany. Matters formerly handled by the division engineers will be under jurisdiction of the engineer maintenance of way.

FRISCO.—**J. F. Christian, J. M. Godfrey,** and **F. E. Wait, Jr.** appointed assistant superintendents, Tulsa, Okla., Sherman, Tex., and Fort Scott, Kan., respectively. The following named road foremen of equipment: **C. M. Doane,** Fort Scott; **C. R. Kizer,** Memphis, Tenn.; **C. L. Lucas,** Birmingham, Ala.; **R. L. Sanford,** Neodesha, Kan.

G. L. Presson, assistant superintendent, Fort Smith, Ark., retired March 1 after more than 47 years' service.

R. H. Francis, general road foreman of equipment, Springfield, Mo., retired March 15.

GREAT NORTHERN.—**J. A. Smith,** district storekeeper, St. Cloud, Minn., appointed assistant general storekeeper, St. Paul, succeeding **A. L. Nelson,** who retired January 31. **P. M. Hawkins** named assistant to general storekeeper, St. Paul, succeeding **H. J. Sprague,** appointed district storekeeper, Havre, Mont. Mr. Sprague succeeds **C. W. Driver,** named district storekeeper, Great Falls, Mont., replacing **H. J. Johnson,** transferred to St. Cloud. **H. A. Nolan** appointed division storekeeper, Grand Forks, N.D., succeeding the late **L. J. Mero. P. H. Morben,** acting division storekeeper, Grand Forks, has returned to his former position. **A. B. Daniels,** local storekeeper, Interbay, Wash., appointed manager, district office, general stores, St. Paul. **L. O. Williamson** named assistant manager, district office, general stores, St. Paul.

Edward J. Kubicki, traveling freight agent, St. Paul, appointed general agent, Atlanta, Ga., succeeding the late **A. R. Mitchell.**

KANSAS CITY SOUTHERN.—**Lester G. Muller,** traveling passenger agent, New Orleans, named assistant general passenger agent, Kansas City, Mo., succeeding **Joseph A. McManus,** general passenger agent, who retired February 15.

LONG ISLAND.—**John W. Rowland,** supervisor of structures, Jamaica, N.Y., promoted to assistant engineer of construction and has been succeeded by **John W. Woodward,** supervisor of structures, **Pennsylvania,** Altoona, Pa.

LOUISVILLE & NASHVILLE.—**Frank A. Burke,** general traffic manager, Nashville, Tenn., retired January 1.

MILITARY TRAFFIC MANAGEMENT AGENCY.—**Brig. Gen. I. Sewell Morris,** assistant chief of staff G-4, U. S. Army, Japan, named executive director, MTMA, Washington, D.C., effective March 1. He succeeds **Maj. Gen. E. C. R. Lasher,** retired (Railway Age, Jan. 27, p. 37).

MISSOURI PACIFIC.—**O. L. Hope,** mechanical superintendent, Southern district, Little Rock, Ark., appointed assistant chief mechanical officer. St. Louis. **G. W. Niemeyer,** terminal master mechanic, North Little Rock, named to succeed Mr. Hope, and in turn is replaced by **Eugene McNabb. J. H. Thomas** appointed assistant to chief mechanical officer, St. Louis. **G. V. Glenn** named supervisor of diesel equipment, St. Louis, succeeding **W. P. Sullivan,** retired.

Lafayette Binkley, general freight agent, St. Louis, retired February 28.

Albert R. Miller, industrial agent, appointed general land agent, St. Louis, succeeding the late **C. W. Rapp.**

R. T. Kennedy appointed general storekeeper and **L. P. Brock** named assistant general storekeeper, both at St. Louis.

PACIFIC FRUIT EXPRESS.—**Charles V. Ahern,** assistant vice-president and general manager, appointed president and general manager, San Francisco, succeeding **Kenneth V. Plummer,** who retired February 28.

PACIFIC MOTOR TRUCKING COMPANY.—**B. R. Johnson,** assistant to the president, appointed vice-president and general manager of this trucking company, which is controlled by the Southern Pacific. **R. K. Lattin,** formerly general manager, named to the newly created position of manager of transportation.

READING.—**Joseph A. Mickey,** assistant auditor of disbursements, Philadelphia, appointed auditor of disbursements there, succeeding **Ernest F. J. Uibel,** who retired February 28. **William C. Gramm,** assistant to auditor of disbursements, succeeds Mr. Mickey as assistant auditor of disbursements.

OBITUARY

Dr. Thomas J. Kaster, 84, retired chief surgeon, **Santa Fe,** died March 8 in Passavant Hospital, Chicago.

William W. Carson, 85, retired assistant freight claims agent, **Chicago & North Western,** died March 3 in his home at Evanston, Ill.

H. S. Shadrach, 66, freight claim agent, **Nickel Plate,** Cleveland, died March 6 at Massillon (Ohio) City Hospital.

J. N. Davis, retired assistant to the president and general attorney, **Milwaukee,** died March 1 in Seattle, Wash.

Supply Trade

Robert Aldag has been appointed manager of the railroad division of **Fairbanks, Morse & Company.**

Richard J. Mills, regional manager, Eastern district of **American Hoist & Derrick Company,** has been appointed general sales manager.

Inland Steel Company will build an experimental pilot plant at its Indiana Harbor, Ind., works for smelting iron ore by a new process. **Hjalmar W. Johnson,** vice-president in charge of steel manufacturing, said the new technique has been developed in Inland's research laboratories over the past several years.

Roger B. Coleman, district manager of the railroad division, **Chipman Chemical Company,** Chicago, has been promoted to general manager of the railroad division there.

L. W. Jander, eastern regional sales manager, Materials Handling Division, **Yale & Towne Manufacturing Company,** promoted to assistant general sales manager, Philadelphia. **James Rainey,** district sales manager for south central United States, promoted to Midwest regional sales manager, Chicago, succeeding **Neal J. Kemp, Jr.,** who has been appointed manager of the Detroit sales and service branch.

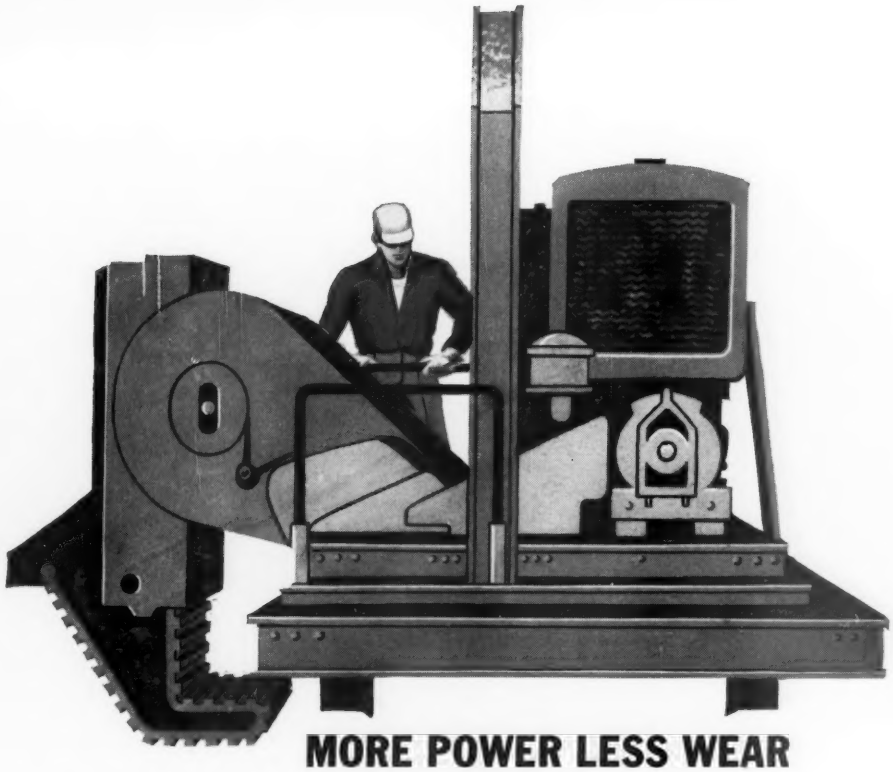
Herbert H. Rogge, president of **American Car & Foundry,** division of ACF Industries, Inc., New York, has been elected vice-president and a director of the **American Railway Car Institute.**

William P. Pautke has been appointed sales engineer for **Dana Corporation** at Toledo, Ohio. Mr. Pautke was formerly diesel field engineer for **Fairbanks-Morse.**

Morton L. Zalk, manager of operations, St. Louis district, **Hyman-Michaels Company,** has been elected vice-president.

Robert Aldag

Richard J. Mills



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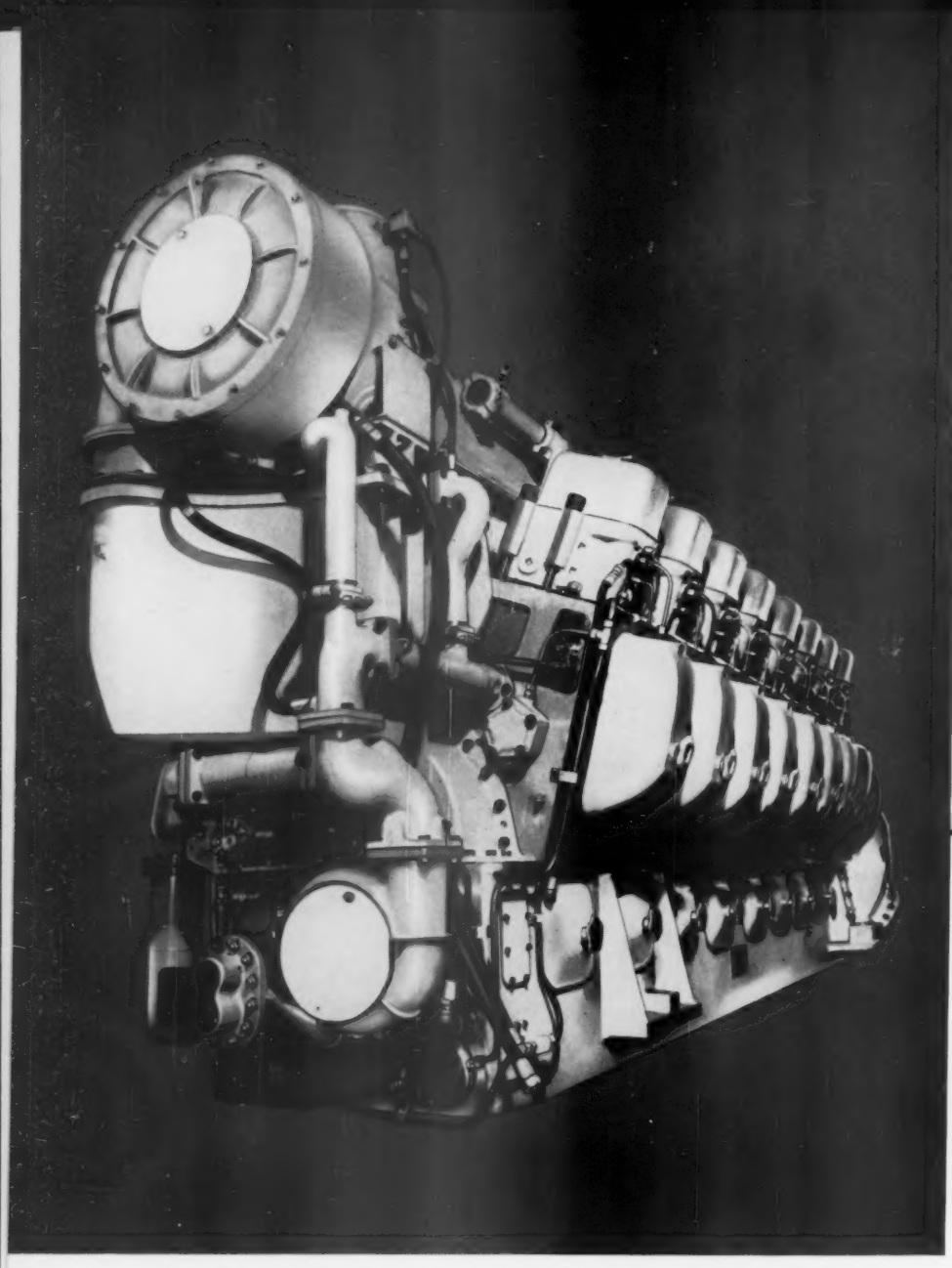

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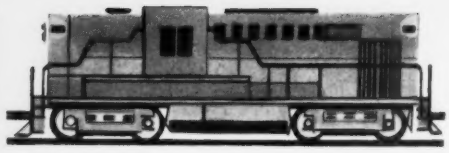
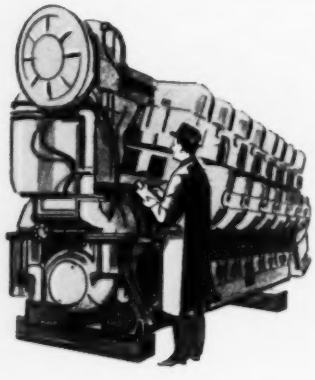


LOCOMOTIVE

PARTS



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MARKET OUTLOOK *at a glance*

Carloadings Ease 1.7% Under Previous Week's

Loadings of revenue freight in the week ended March 8 totaled 544,173 cars, the Association of American Railroads announced on March 13. This was a decrease of 9,472 cars, or 1.7%, compared with the previous week; a decrease of 128,190 cars, or 19.1%, compared with the corresponding week last year; and a decrease of 153,428 cars, or 22.0%, compared with the equivalent 1956 week.

Loadings of revenue freight for the week ended March 1 totaled 553,645 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, March 1

District	1958	1957	1956
Eastern	88,176	118,878	121,936
Allegheny	101,731	145,815	145,356
Pocahontas	49,029	64,774	60,961
Southern	108,240	125,579	131,727
Northwestern	58,580	79,383	75,507
Central Western	100,118	114,776	117,433
Southwestern	47,771	54,808	58,056
Total Western Districts	206,469	248,967	250,996
Total All Roads	553,645	703,983	710,976
Commodities:			
Grain and grain products	47,691	55,514	46,350
Livestock	4,485	5,629	7,208
Coal	118,426	136,746	135,657
Coke	6,738	13,558	13,388
Forest Products	33,048	42,339	45,402
Ore	14,109	26,522	20,742
Merchandise l.c.l.	47,379	58,816	64,132
Miscellaneous	281,769	364,859	378,097
March 1	553,645	703,983	710,976
February 22	492,389	626,630	687,018
February 15	533,237	675,966	698,319
February 8	532,289	665,251	684,328
February 1	550,426	647,972	680,989
Cumulative total, 9 weeks	4,826,199	5,884,783	6,174,403

IN CANADA.—Carloadings for the seven-day period ended February 28 totaled 66,332 cars, compared with 74,350 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
February 28, 1958	66,332	31,722
February 28, 1957	74,350	35,104
Cumulative Totals:		
February 28, 1958	551,241	243,291
February 28, 1957	596,143	269,089

New Equipment

FREIGHT-TRAIN CARS

► *Missouri-Kansas-Texas.*—Ordered 15 70-ton covered hoppers, Pullman-Standard, for immediate delivery.

► *Norfolk & Western.*—Ordered 50 70-ton covered hopper cars from American Car & Foundry for delivery this month and in April.

SPECIAL

► *RRs Speed Track-Maintenance Mechanization.*—Over $2,000,000 of track-maintenance equipment has been ordered from the Railway Maintenance Corporation by four railroads. The New York Central ordered 12 TieMasters, 10 SpikeMasters, 3 tie unloaders and 6 turntables; Texas & New Orleans, 15 McWilliams spot tampers, 5 McWilliams jack tampers and 20 set-offs; Southern Pacific, 10 McWilliams spot tampers and 2 McWilliams multiple tie tampers; Louisville & Nashville, seven SpikeMasters and one McWilliams spot tamper.

New Facilities

► *Camas Prairie.*—Will increase capacity of Forebay Yard, Lewiston, Idaho, by constructing two new tracks for handling logs. Capacity of new tracks will be 90 and 30 cars, respectively. Project, involving expenditure of approximately $92,600, will be completed in June. Work is being done by company forces.

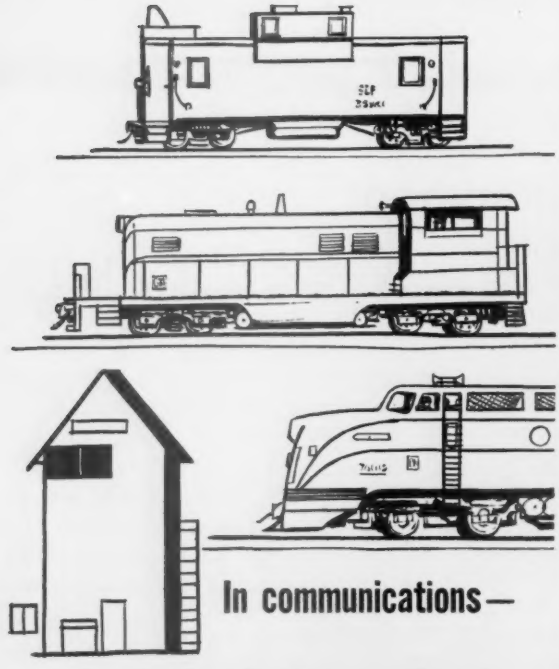
► *Canadian National.*—Will build a combined headquarters office building and parking garage in downtown Montreal at an estimated cost of $15,400,000. The project will consist of three garage floors above the existing plaza of Central Station, carrying three office floors above, with a narrower 10-story tower superimposed at one end. Foundation work is starting immediately.

► *Chesapeake & Ohio.*—Announced immediate start of work on a new $50,000 passenger station in Norfolk, Va. The station is expected to be ready for occupancy on August 1.

► *Delaware & Hudson.*—Capital improvement budget for 1958 authorizes installation of automatic short-arm gates at four New York sites. Installations will cost an estimated $82,000. Other authorized expenditures are for: installation of remote control of MO interlocking from CTC machine at Hudson, Pa. ($68,600); new floodlighting tower, Kenwood, N.Y. ($4,400); four light maintenance trucks for signal maintainers and electricians, and four trailers for construction gangs ($22,546); safety devices to be worn by employees when working on 80-ft floodlighting towers ($7,000).

► *Missouri-Kansas-Texas.*—Ordered 15 70-ton covered hoppers, Pullman-Company for two classification yard installations in Kansas City, Mo. Installations will feature GRS Class-Matic, which includes automatic radar and analog computer type retarder control and automatic switching. Track fullness indicators also will be provided.

a RAILWAY AGE time-saver page



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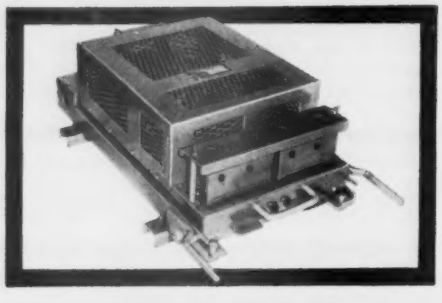

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Brown Urges Diversification

(Continued from page 10)
of transportation, they will be able to give better service, stop the erosion of rail traffic, and possibly increase such traffic. . .

"The same clerical, sales, freight handling and shop personnel, as well as stations, ticket offices, freight houses, yards, communications and even rights-of-way in some cases, would be used to service the diversified operations.

"Quite possibly many branch lines and secondary trains, now thought to be of doubtful justification, when relieved of carrying the entire burden of cost, could be made profitable."

He said the public interest should be of paramount consideration in any transportation service, but "the operation of trains should not, alone, disqualify railroad companies from engaging in highway, airway or waterway transportation in conjunction with rail operation."

Apart from its other merits, integrated transportation would put railroads on more equal footing with their subsidized competitors, Mr. Brown said.

"The present plight of railroads and the staggering number of unemployed railroad men result directly from the loss of traffic to other forms of transportation," he said. "The federal government and the states have spent billions of dollars to provide airports, waterways and highways that are used for movement of both freight and passengers. As big taxpayers, railroads are required to support these projects whether they like it or not.

"Therefore," he concluded, "simple justice requires that they be allowed to make use of these facilities if they so desire."

Airlines Back Some RR Proposals

Airlines, like the trucking industry, have told the Senate's Surface Transportation Subcommittee of their agreement with many railroad proposals.

At the same time, they have joined truckers in opposing the railroads' call for removal of restrictions on railroad operation of other forms of transport.

As to the call for freedom to make competitive rates, airlines were not as excited as the truckers. Stuart G. Tipton, president of the Air Transport Association, said airlines were not directly involved in the issue and that they have a "rate freedom problem of their own." He also said:

"We have noted with interest that the railroads' advocacy of greater freedom of rates is not intended to apply to freedom within given modes of transportation but only between different modes. Nor have their explanations adequately answered this apparent inconsistency in their position on this point. We, however, support the principles which are a part of rate-setting freedom."

Mr. Tipton was one of three representatives of the air transport industry who appeared before the subcommittee. The other two were C. L. Burwell, general counsel of the Independent Airlines Association, and Joseph P. Adams, executive director and general counsel of the Association of Local and Territorial Airlines. The subcommittee, headed by Senator Smathers of Florida, is investigating the "deteriorating railroad situation."

That part of the Interstate Commerce Act's Section 22, which gives surface carriers rate-making freedom as to government traffic, was another matter on which ATA differed with the railroads, Mr. Tipton said. The airlines, he explained, favor repeal of those provisions, and he also said that "important segments of the railroad industry" are of the same opinion.

Mr. Tipton favored such railroad proposals as repeal of excise taxes on amounts paid for for-hire transportation, shorter depreciation periods for railroad equipment, income-tax arrangements to permit setting up a construction reserve fund, and a tightening of the IC Act's so-called agricultural exemptions.

As representative of the local airlines, Mr. Adams told the committee that "in most areas, the traveling public who might lose their railroad service . . . will, in all probability, receive superior transportation from local service airlines." These lines, Mr. Adams said, now provide service to 478 towns and cities. He also said:

"To the extent that passengers displaced by train discontinuances use the presently available local service airlines, the commercial revenues of the local carriers will be increased and federal subsidies reduced."

Mr. Burwell told the committee that his clients want Section 22 amended "to prevent its use as a destructive competitive device." He suggested that one "safeguard" could be a requirement for 30-day notice of Section 22 quotations.

Dulles: A Different Kind of Engineer

Weighty affairs of state are shoved aside as Secretary of State John Foster Dulles beamingly accepts model of New York Central's famed steam locomotive "999" from NYC Vice-President L. W. Horning. The engineer of U. S. foreign policy confessed on his 70th birthday that his boyhood ambition had been to pilot "999," which once hit speed of 112 m.p.h. Ancient steamer is now in retirement. Mr. Dulles has a standing invitation from NYC President Alfred Perlman to go for a spin on a modern diesel.

Mail Service Experiment: Payment on Weight Basis

An experiment being run by the Rock Island and the Post Office Department may produce a basis for payment by weight for mail moved in freight service.

Earlier this month, the railroad began moving bulk mail in standard box cars between Minneapolis and Des Moines. Cars are set out at major points. The mail is then distributed to intermediate offices by Rock Island Motor Transit trucks.

Payment will be on an experimental weight and distance basis for a 90-day trial period. According to the Rock Island, the aim is to arrive at a rate which would be compensatory and at the same time serve

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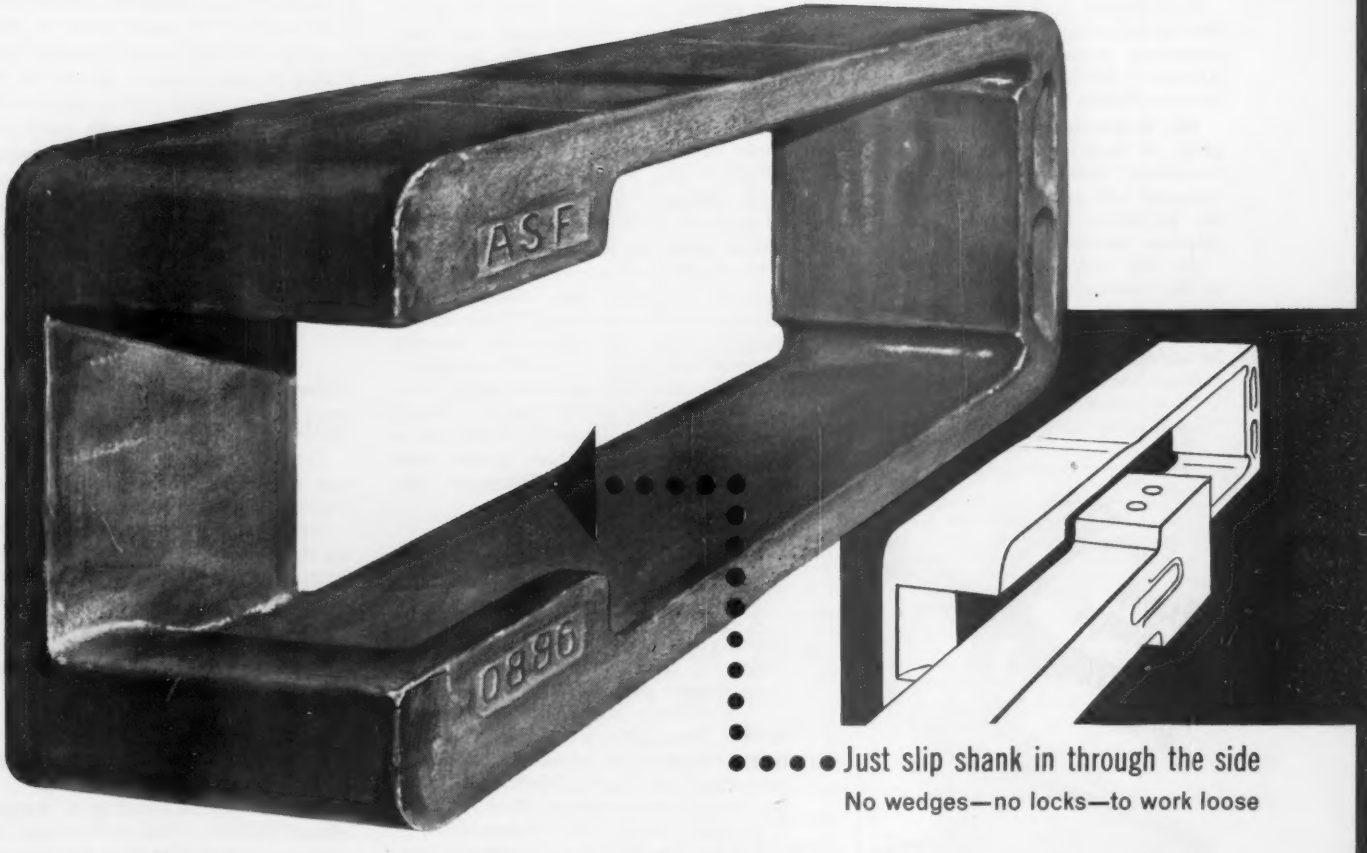

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as a basis applicable to expedited freight mail service over the long range.

Rock Island's program for freight mail is similar to one begun by the Chicago & North Western about a year ago. The big difference is in the pay arrangements. C&NW is being paid an annual rate for performing the whole job; weight didn't enter into the payment reckoning. The Rock Island experiment is seeking a basis for payment by weight rather than on footage or space rates.

Rock Island's freight train mail is now being weighed at St. Paul Union Depot. If agreement can be reached on a fixed amount of payment, it may be placed on an annual contract basis. This would eliminate need for excessive accounting or continual weighing.

The road's manager of baggage, mail and express traffic, A. M. Allison, said the experimental project entered the picture near the end of negotiations on a mail service adjustment.

In all, revisions have been made on three mail routes because of discontinuance or rescheduling of mail-carrying passenger trains.

RR Help Coming, Says Roddewig

Is Congress sufficiently aroused over the "deteriorating railroad situation" to do something about it? "Yes," says C. M. Roddewig, president of the Association of Western Railways.

Mr. Roddewig told the New York Society of Security Analysts chances are "excellent" that the present session of Congress will pass a "substantial" part of the legislation recommended during the Smathers hearings.

He said railroad men are encouraged by the current wave of public interest in the industry's status.

The alternative to remedial legislation, he added, could be nationalization of the railroad industry.

"If nationalization does come," he said, "it will come only because of the selfishness of our competitors. If we're nationalized, they'll be nationalized, and that could be the forerunner of a new type of economy."

Everybody will benefit if railroads are permitted to compete "on a straight economic basis" with other modes of transportation, Mr. Roddewig said.

"If railroad volume could be increased 25 per cent, you'd have substantially lower freight rates," he predicted.

Generally, eastern roads have thornier financial problems than railroads elsewhere, said Mr. Roddewig. "None of the western roads," he assured the security analysts, "are on the verge of bankruptcy."

But he said the situation might soon get as bad in the west if Congress doesn't come through with remedial legislation to cure the "disease" whose germs were planted in the Interstate Commerce Act.

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C&O Gives Competition Some Food for Thought

If the way to a traveler's heart is through his stomach, the Chesapeake & Ohio may soon win back old customers and influence new ones.

In a bid for a bigger slice of the travel market, the C&O is offering two free dining car meals to round-trip passengers between Grand Rapids, Mich., and Chicago. The "Chessie American Plan Package" is good on Tuesdays and Wednesdays.

For the regular $15.11 round-trip fare, the C&O throws in diner coupons good for breakfast going and dinner returning. The C&O hopes the attraction of free food may more than make up for the extra diner deficit.

The Union Pacific has already successfully tested a similar plan. The UP provides free buffet-style food on the "City of Las Vegas," between Los Angeles and the Nevada gambling capital.

UP says it's "thinking" about expanding the free-food operation to other trains. One major problem lies in the nature of the traffic. All "City of Las Vegas" passengers hold through tickets. But if the free food plan were applied to transcontinental trains, a short-haul passenger might get a meal on the house worth more than the price of his ticket.

Consolidation Can Save Billions, Says Barriger

P&LE President John W. Barriger, no newcomer to the cause of railroad consolidation, told the AREA last week that the nation's 220,000 miles of rail line should be consolidated into a maximum of 20 systems. Preferably, he added, the number should be much smaller.

Possible benefits of such a move: (1) Savings of $1 billion annually in operating expenses, compared with maximum savings of only one-tenth as much from full-scale coordination of facilities; (2) preservation of competition at major centers, except possibly in New England; (3) service improvements and rate adjustments which could lead to traffic gains and a net increase in railroad employment; (4) the billion dollars saved annually would be "just what the railroads will need each year to modernize their plant and revitalize their services."

Milwaukee Seeks Stay of Order to Refund Fares

The Milwaukee continues its suburban fare case fight despite losing two quick rounds in Federal Court.

The first setback came in a ruling ordering the railroad to reduce its fares and to begin payment to commuters of some $650,000 accumulated in escrow since 1956.

The Milwaukee's request to stay execution of the previous order pending an appeal to the U. S. Supreme Court also was denied.

Indications are that the carrier now will seek a 120-day stay from the Supreme Court.

Preparation and handling of commuter refund claims, it was pointed out, may consume enough time for a stay request to be taken to the high court and acted upon before refunds are made. Should the court grant a stay, the carrier's new appeal would be processed. Otherwise, refund payment would have to start.

Originally, the Illinois Commerce Commission turned down the road's fare increase request. The Interstate Commerce Commission, however, disagreed and the increase went into effect. The state commission and a commuter's association protested and the case was remanded to the ICC by a Federal Court. The Supreme Court, reviewing the case, upheld the lower court.

In the meantime, the Milwaukee has complied with the court order to reduce its fares to the levels existing before the increase was put into effect two years ago.

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Pessimism about the railroads in the mid-thirties was deeper and bluer than today—and it was largely dispelled, in the minds of the public, by spectacular improvements in passenger service. The railroads need today a similarly dramatic positive program—to arouse public interest and confidence.

•

All reports indicate that responsible legislators are deeply impressed by the needs of the railroads for greater freedom in rate-making and more equitable taxation—but legislators seldom go further in legislating than their constituents want them to go. Railroads need greater popularity, therefore, not just in Washington, but at the grass-roots level. One railroad man has set forth the requirements, in part, as follows:

"Letters to Congressmen won't do the job . . . We aren't going to get anywhere just asking legislators' support for this or that piece of legislation.

"We must tell leaders in all walks of life the railroad story of their town: how many are employed there by the railroads; what their pay amounts to; what products we purchase as a railroad; how much tax we pay; how many railroaders there are unemployed; the potential pay being lost, because of unjust treatment of the railroads.

"What more effective way would there be to make a deep and lasting impression on a Congressman or other civic leader than to take him on a tour of our properties; have him visit homes of furloughed railroaders; point out to him the improvement we could make in physical property and service and employment if we were given an even chance to compete for business?

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People do not usually lavish much sympathy on a fellow whose only claim to attention is the fact that he is in trouble. Rather, they try to avoid him. They are far more likely to have their interest aroused, and want to help him—if he's clearly doing the best he can to improve his performance, despite his difficulties.

That is what dramatic improvements in passenger service largely accomplished for the railroads in the thirties. That is what publicizing improvements in freight service is helping to do now. There isn't a railroad anywhere which is not, to a greater or less degree, improving its service—and such improvements ought to be getting more of a spotlight on them than they are. When traffic is light, it is usually possible to make service improvements with minimum added expense—often with no increased expense at all. The railroads, at a time like this, need to make the most of every such opportunity they can find.

THEY BET ON HORSES THAT LOOK LIKE WINNERS: The railroads are in acute need of more equitable treatment from government—especially in regulation and taxation, relative to rival agencies of transport. The simple fact of need will not bring about remedial action. To get such action the railroads must show (1) that the people at the grass-roots level have a personal interest in the railroads' objectives; and (2) that the railroads deserve confidence and support because they're doing a better job all the time, despite their difficulties.

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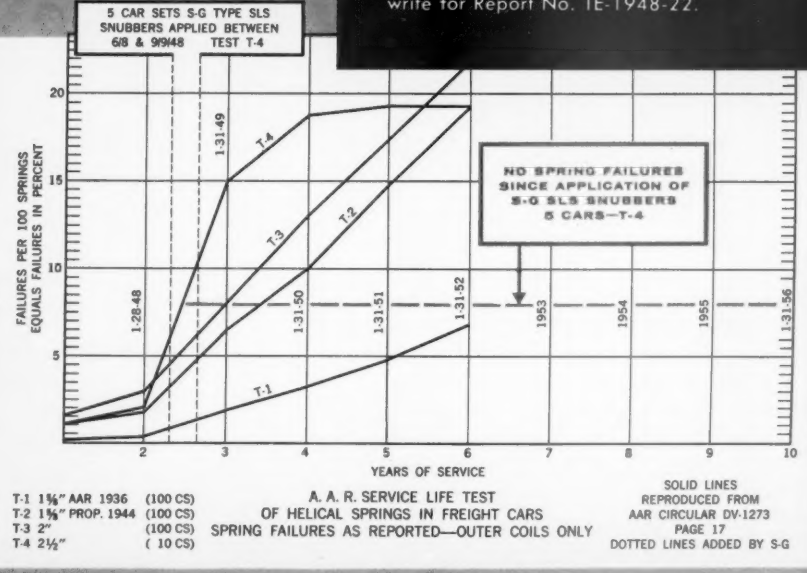

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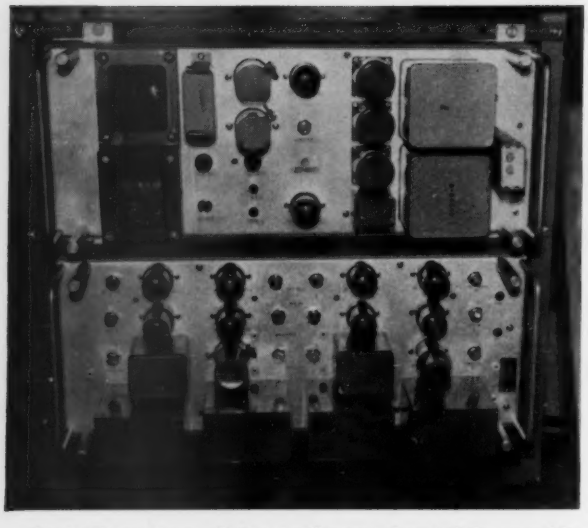

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